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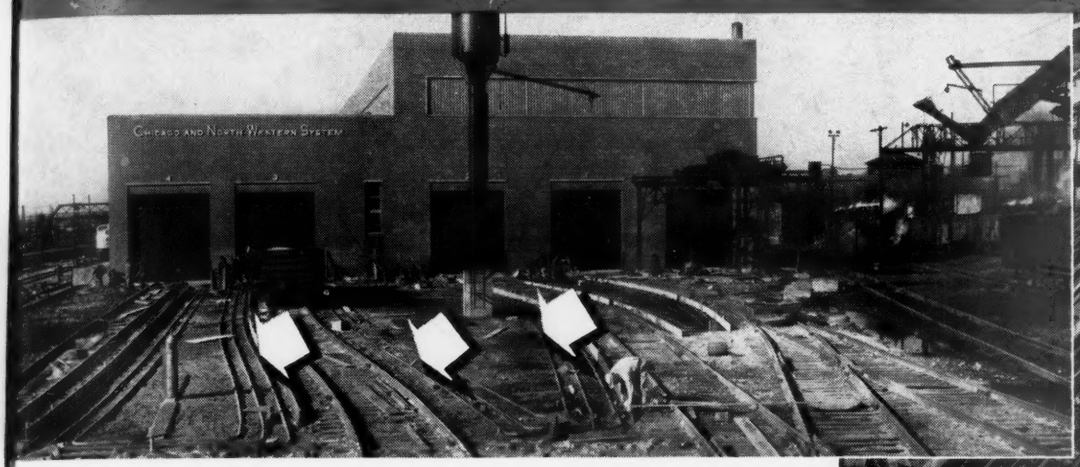

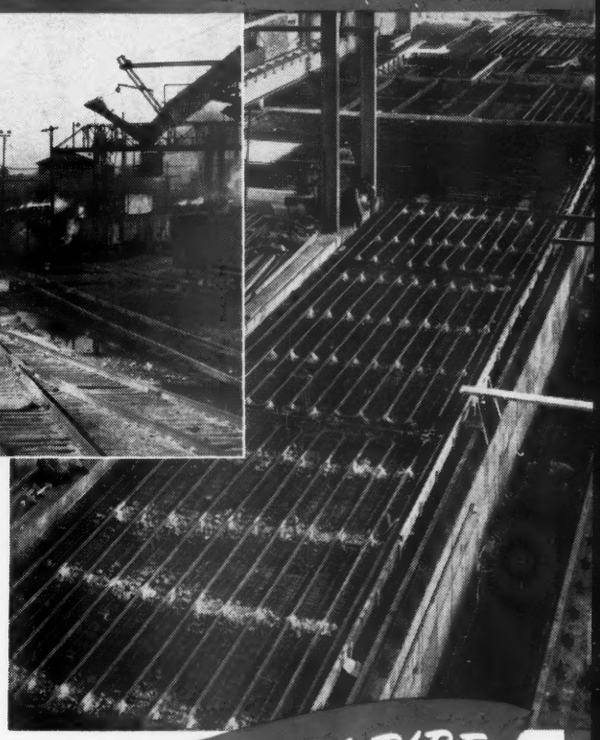

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Vol. 126, No. 12 March 19, 1949

RAILWAY AGE

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Published each Saturday by the Simmons-Boardman Publishing Corporation, Orange, Conn., with Editorial and Executive Offices at 30 Church Street, New York 7, N. Y., and 105 W. Adams Street, Chicago 3, Ill.

Washington 4, D. C.: 1081 National Press Building—Cleveland 13: Terminal Tower—Seattle 1: 1038 Henry Building—San Francisco 4: 300 Montgomery Street, Rooms 805-806—Los Angeles 14: 530 West 6th Street—Dallas 4: 2909 Maple Avenue.

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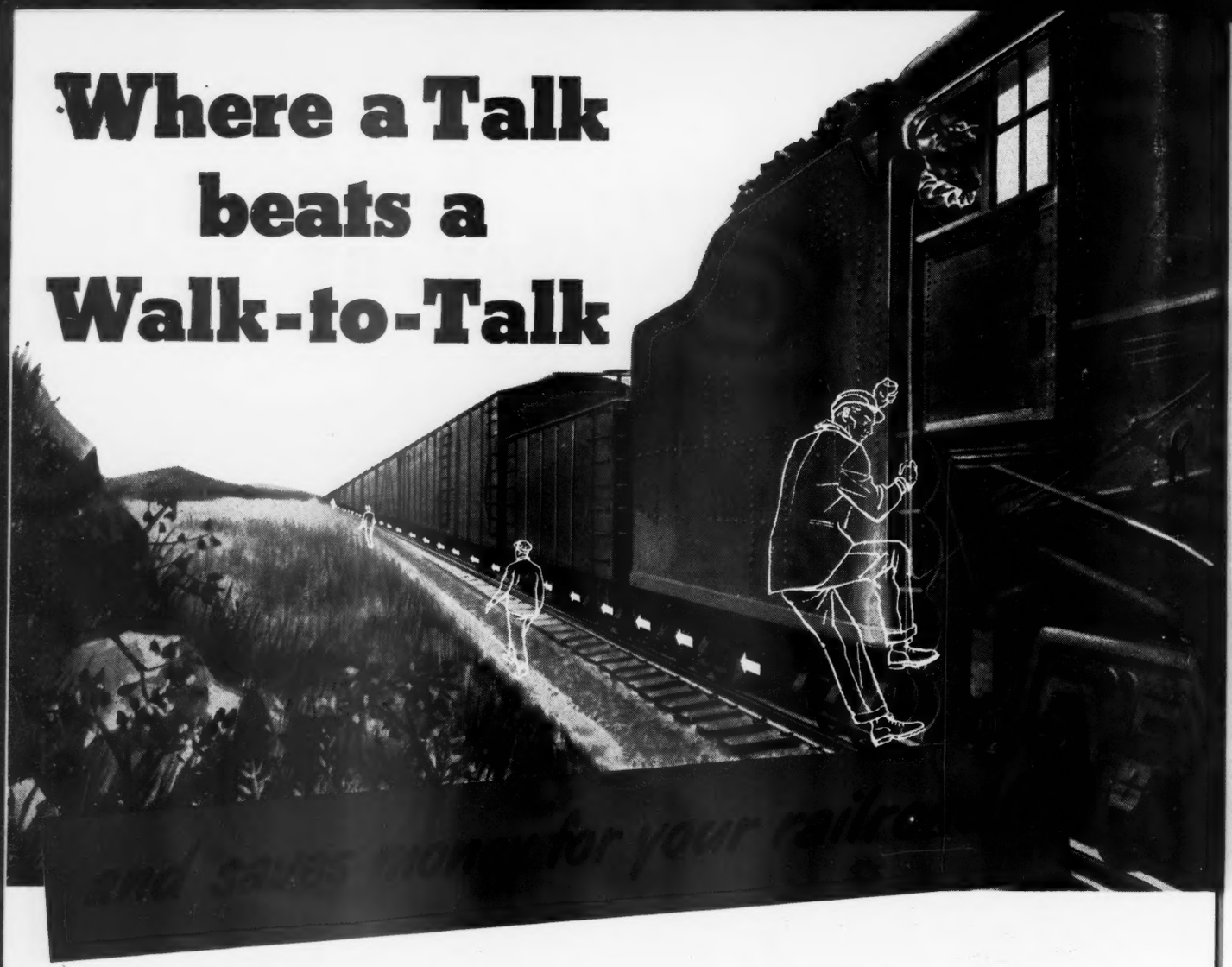
Subscriptions, including 52 regular weekly issues, and special daily editions published from time to time in New York or in places other than New York, payable in advance and postage free. United States, U. S. possessions and Canada: 1 year, $6.00; 2 years, $10.00; other countries not including daily editions in Western Hemisphere: 1 year, $10.00; 2 years, $16.00; other countries: 1 year, $15.00; 2 years, $25.00. Single copies, 50 cents each, except special issues.

H. E. McCandless, Circulation Manager, 30 Church Street, New York 7.

Railway Age is a member of Associated Business Papers (A. B. P.) and Audit Bureau of Circulation (A. B. C.) and is indexed by the Industrial Arts Index and by the Engineering Index Service.

PRINTED IN U. S. A.

Where a Talk beats a Walk-to-Talk



Consider the number of times trains must stop, with crew members often required to walk considerable distances to exchange information. In addition to direct costs involved in starting and stopping a train, think of the time that is lost, the schedules that are disrupted and the loss in track capacity and availability of rolling stock. Then you begin to realize how much "Union" Inductive Train Communication can save in those instances alone.

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Remember, these are only a *few* of the ways "Union" I.T.C. can save time and money for your railroad. This same, swift communication has equally important advantages in classification yards, between yard conductor and locomotive crews—in mainline service, between engineman and conductors on the same train, or between crews on separate trains and between train crews and station operators. Write for Bulletin 160, or call upon your nearest "Union" district office for full information.

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WEEK AT A GLANCE

FIFTY YEARS OF ACHIEVEMENT: Celebrating the successful completion of 50 years of service to its members and its industry, the American Railway Engineering Association held its Golden Anniversary convention this week at Chicago. The bulk of this week's issue is devoted to an account of that meeting, including abstracts of both the technical and the non-technical addresses, and of the various committee reports. The convention itself is summarized, with abstracts of the non-technical speeches, beginning on page 68; abstracts of the technical addresses begin on page 75, and summaries of the committee reports start on page 81.

SUCCESSFUL EXHIBIT: The National Railway Appliances Association's exhibit at Chicago—the thirty-fourth held by the N.R.A.A. in connection with A.R.E.A. conventions—fulfilled all advance expectations, as one of the largest and most comprehensive displays of its kind ever held. It is described in more detail on page 85.

SEVEN KEYS TO BALDPATE: There were, the playwright said, seven keys to Baldpate. There were, E. Grover Plowman, traffic vice-president of the United States Steel Corporation, told the Wilmington, Del., Traffic Club last week, seven key reasons for nationalization of British railways—in addition, of course, to the master key of a general socialistic philosophy. Mr. Plowman's analysis of the situation, which appears in our News columns, deserves careful reading—for most of the seven key reasons he mentions might have been corrected by British railways and shippers, had they acted in time. American railroaders, and business men in general, by learning the British lesson, can help to see that American transportation (of all types) doesn't follow British transport into the mediocrity of a non-competitive government monopoly, from which neither shippers, employees nor the public derive any benefit.

"PHENOMENAL GROWTH": In 1948, for the first-time on record, coal-burning steam locomotives took second place to Diesel-electrics as producers of passenger-train car-miles, according to the latest "Monthly Comment" of the Interstate Commerce Commission's Bureau of Transport Economics and Statistics, which is reviewed on page 93. In addition to these figures on what it called the "phenomenal growth" in use of Diesel-electric motive power, the "Comment" also contained an article comparing intrastate and interstate revenues on bituminous coal traffic in 1947, and others, following through from the previous "Comment," which analyzed railway financial results in 1948 and equipment obligations due in 1949.

OTHER ROADS TO SOCIALIZATION: Nationalization of transportation in this country could conceivably result, not only from reasons similar to those cited by Mr. Plowman, but also from extension of socialistic projects like the St. Lawrence Seaway, or from simple apathy and indifference. Both possibilities have been recently discussed in speeches reported in this week's News—one at New York by Carroll B. Huntress, chairman of the National St. Lawrence Project Conference, and one at Washington, D. C., by Dr. John H. Frederick of the University of Maryland.

INNOCENT BYSTANDERS: The economic injury which can be inflicted on many men by the selfish, short-sighted action of a few—or even of one—is strikingly illustrated in three separate articles in this week's News pages. Because John L. Lewis ordered a strike, thinly camouflaged as a "work stoppage," in Eastern and Southern coal mines, some 71,000 railroaders are or soon will be on furlough. Some 3,300 Railway Express drivers in New York are out of work because loaders and sorters have staged a "slow-down strike" on a dispute already under mediation. And some 8,500 non-operating employees on the Wabash have received furlough notices because the operating employees have walked out. We wonder if the innocent men so adversely affected by these actions will put the blame for their plight where it properly belongs—on the striking employees.

NO CHANGE: As reported in the News section, the Hoover Commission which is studying reorganization of the executive branch of government has rejected, although not unanimously, the idea of a single regulatory agency for all forms of transportation.

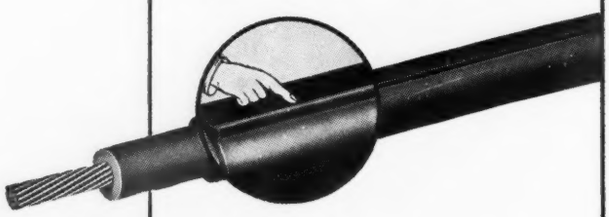
BEAM IN THE EYE: Manufacturers who loudly object to higher taxes, control of profits or anything else resembling socialism, as applied to their own industries, are largely responsible for present conditions on the railroads. Our leading editorial points out some of the inconsistencies in their position—a position which favors, or at least condones, application to railroads of measures they don't want applied to themselves.

NEW "BROADWAY": Some novel features of dining, lounge and all-room sleeping cars for the Pennsylvania's "Broadway Limited" are illustrated on page 92.

"NEW LOOK" FOR "SOUTHERN BELLES": An illustrated article, beginning on page 86, describes new cars which will go into service on April 3 on the Kansas City Southern's "Southern Belles," between Kansas City and New Orleans. On the same date, as reported in the News columns, the K.C.S. will introduce a new system of reduced multiple-trip fares. The combination of new equipment and a new fare basis looks like an aggressive, intelligent effort to develop passenger traffic—an effort we believe will be watched with interest throughout the railroad industry.

A SIGNAL TO SIGNAL WIRE USERS LOOKING FOR TRUE ECONOMY

Look for this ridge and you find a reason . . .



It's the mark of an Okonite cable, proof that highest quality insulation has been applied to the conductor by Okonite's strip process. Still prominent after removal of the continuous metal vulcanizing mold, this ridge symbolizes many extra engineering features built-in to make sure Okonite outperforms ordinary cables . . . offers true economy in these days of high installation costs.

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HERE, TOO AND HERE AND HERE

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The first special feature is the coating of the conductor with Okoloy, a special corrosion-resistant lead alloy which has demonstrated its ability to outlast tinning 2 to 1. Next is the Okonite insulation made with Fine Up-River Para Rubber, time proved as the best rubber for use in dielectric. A third Okonite service-life "extra" is the greater toughness, weather resistance and mechanical stability of the Okoprene used for the sheath. Okoprene is the pioneer neoprene wire and cable covering developed in the Okonite laboratories.

Tests Prove that

. . . *it is flame-resistant.* Fully complies with Underwriters' Laboratories requirements.

. . . *it resists distortion.* Bent around a 1/16" mandrel with 16-lb. weights attached, wire withstood 1500 volts to ground for 400 hours.

. . . *after 24 hours immersion in water,* insulation withstood approximately 16,000 volts.

. . . *it may be installed and operated* at temperatures of minus 40°C to 75°C. Okonite-Okoprene Signal Wire is only one type of Okonite-engineered railroad wires and cables that are protected by Okoprene covering which is discussed in Bulletin RA-2048 obtainable from The Okonite Company, Passaic, New Jersey.

THE BEST CABLE IS YOUR BEST POLICY

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OKONITE OKONITE SINCE 1878 ***insulated wires and cables***

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THE BEAM IN THE EYE OF INDUSTRY'S LEADERSHIP

Spokesmen for the manufacturing industry are doing a great deal of talking about the difficulty, if not the impossibility—tax laws being what they are—of raising equity capital for desirable improvement and expansion. They also point out that the reported profits of manufacturing are greatly overstated, when allowance is made for the fact that depreciation is charged in prewar dollars, whereas worn-out equipment has to be replaced at 1949 prices. These contentions are true, and continued failure to correct conditions which discourage large investment in capital goods is the principal cause of the rather marked decline in business activity which has recently occurred.

Conditions Can Be Corrected

It lies easily within the power of the manufacturing business itself, however, to correct in a large and important segment of the economy the adverse conditions of which it complains—and, by conspicuously practicing its own preaching, to give a dramatic lesson in economic fundamentals to the public as a whole. This opportunity lies in the fact that, while the manufacturing industry insists upon reduced taxes, increased allowances for depreciation, freedom from socialistic competition, and the opportunity to earn large profits *for itself*, it persistently refuses to do anything to *accord* parallel conditions to the railroads. Meantime, the National City Bank's monthly bulletin reports that the manufacturing industry earned 18.5 per cent on its net assets in 1948 while the transportation industry earned only 5.4 per cent.

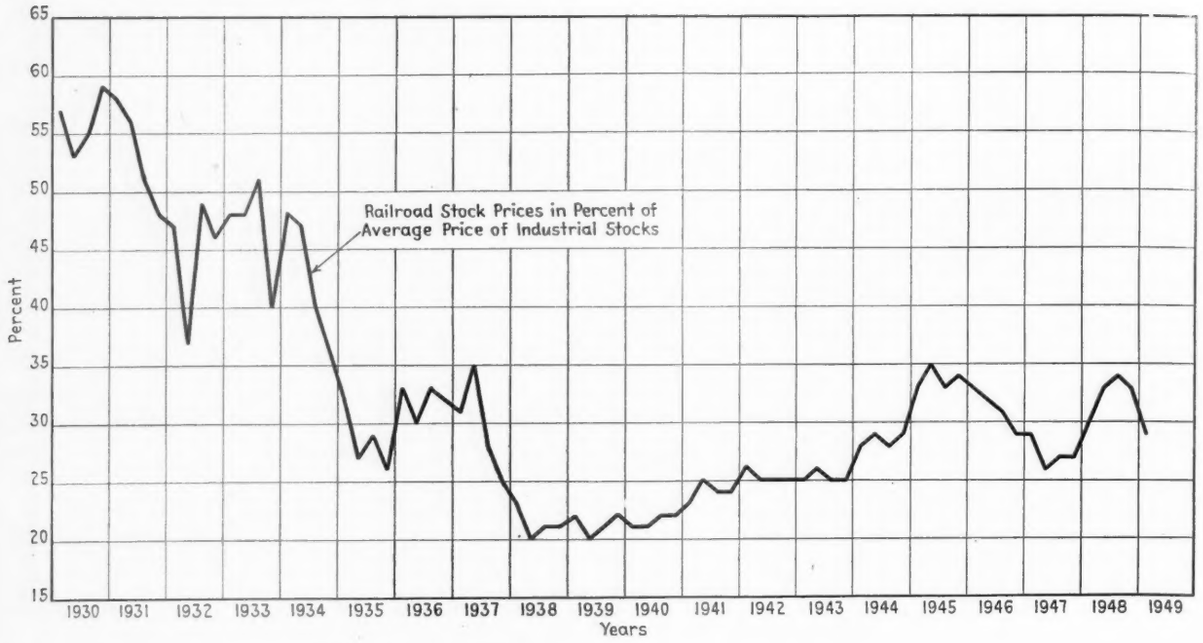
The treatment meted out to the manufacturers by general public and political opinion, however unwisely restrictive it undoubtedly is, is still a great deal more generous in every way than the treatment accorded to the railroads by manufacturing and other business interests. The chart at the top of the next page shows graphically how much worse off the railroads are, from the standpoint of attractiveness to investors of equity capital, than are the "industrials." The relatively much less favorable position of the railroads can be explained only by the fact that manufacturers and other purchasers of transportation—

(1) favor or tolerate tax-supported waterway and highway competition for the railroads while they holler their very heads off against similar competition when aimed at their own businesses;

(2) put pressure upon the regulators to delay and minimize rate changes on the railroads while they alter their own prices overnight to any degree they please;

(3) do nothing to persuade political and regulatory authorities to empower the railroads to meet competition wherever they find it without forcing them to meet it where it does not exist; and

(4) blithely divert tonnage to private and con-



Highs of the Dow-Jones averages for the mid-quarter months

tract carriers wherever they find an immediate profit in so doing—while relieving the railroads not at all of their obligation to continue as a "stand-by" facility, as a carrier of unprofitable traffic, and as the transport service which is forced to run up the bulk of the country's empty mileage.

No Adverse Public Opinion

There is no general public or political opinion in opposition to the railroads which explains their relatively unprofitable situation, when compared to that of most other industry. "The man in the street" is not the guilty party for the peculiar handicaps inflicted upon the railroads by politics, regulation, and raids on the Treasury in behalf of rival transportation agencies. These handicaps have not come to the railroads from John Q. Citizen, who is not even aware of their existence—these burdens have, instead, been laid upon the railroads by an expert hand, namely that of politically active business men seeking governmental favors for themselves, either in the form of transportation facilities provided at the taxpayers' expense or in inflexible regulation of the railroads. Regulation, which neither was invented by the ordinary citizen nor is perpetuated by him, still refuses to recognize that transportation is no longer a "monopolistic" business but a highly competitive one—where practically all tonnage except the least attractive is vulnerable to inroads by contract carriers, who are handicapped by no regulatory or statutory mandate to avoid discrimination.

The railroads are in no position, however, to shrug the problem off by hazily blaming their troubles on the "other fellow" and letting it go at that—because, apart from generalized grumbling about "subsidized competition," which cautiously avoids naming names, they have never adequately and courageously explained in specific detail to their customers and to the public how railroad patrons are discriminated against, compared to the favors enjoyed by shippers who make large use of private and contract transportation on the highways and waterways. The railroads have never forthrightly called for an end to such discrimination against their customers, either by granting parallel favors to railway patrons or denying them to everybody. An exposure on an adequate scale of the specific road-blocks inflicted upon transportation by rail could scarcely fail to be effective, because business, complaining as loudly as it does about its own sufferings from socialistic policies, could not long stand up under persistent revelation of its own pro-socialist activities in transportation —such as, for instance, the kind of public speaking President W. G. Vollmer of the Texas & Pacific has undertaken in his territory.

Arresting the decline in general business is the most important political and economic problem now facing the American people. This goal can be achieved only by increasing the willingness and ability of investors to enlarge expenditures for capital goods. Nowhere else can increased activity in the capital goods industries be stimulated so readily and on so large a scale as in the railroad

industry, (a) because of its enforced stagnation in capital improvement throughout the Thirties; (b) because of technological changes which provide the incentive for wholesale renewal of motive power and rolling stock if investment funds can be found; (c) because the introduction of the 5-day week upon the railroads opens up large additional opportunities for the application of labor-saving improvements; and (d) because of the comparative ease of financing (e.g., through equipment trusts) of a large part of the railroads' capital needs, when there is offered even a modest outlook of favorable earnings.

The opportunity for providing an urgently needed stimulus to the economy from largely increased capital outlays by the railroads lies in the hands of the leadership of American industry—because action of industry's leaders is principally if not wholly to blame for the largely reduced attractiveness of railroad investment. The leaders of industry could scarcely afford *not* to bestir themselves to remove the handicaps which they are placing in the way of a prolonged program of railroad improvement, if the railroads would adequately publicize the specific nature of their difficulties and not pull their punches in revealing who is responsible.

AN UNFINISHED SYMPHONY

During the past week, as reported in this issue, the American Railway Engineering Association celebrated its Golden Anniversary in a remarkable meeting in Chicago. Much of the program was quite properly given over to a review of the achievements of the association in the past. But the features of the meeting that made the deepest impressions, and which portend the greatest good, were the repeated challenging references to the unsolved problems and opportunities that lie ahead.

Conceived and organized by a group of serious-minded, farsighted men who saw the need for coordinated attack on the widely diverse and growing problems of railway engineering and maintenance officers, the A.R.E.A. got off to a propitious start at its very outset. Wisely led and adhering closely to its originally defined precepts, it has been a symphony in organization, operation and achievement—swelling to a crescendo in more recent years as earlier plans, experience and effort have come to fruition, but a symphony not yet finished.

The association devotes its major attention to the future. Setting this keynote in his opening-session address, President C. H. Mottier, vice-president and chief engineer of the Illinois Central, said: "Our past achievements have been great, but the field before us is no less fertile—our opportunities are unlimited." Parallel opinions were voiced by H. R. Clarke, chief engineer of the Burlington Lines, and in the address by E. M. Hastings, chief engineer of the Richmond, Fredericksburg & Potomac, which closed the three-day session.

As to specific problems of the future, aggravated as they are by high costs and by increasing political favors to rival agencies of transportation, S. R. Hursh, assistant chief engineer—maintenance of the Pennsylvania, called for "continued expenditures for labor-saving improvements, constant betterment in working methods, mechanization in ever-expanding application, and increasing application of technological developments." Referring to present maintenance-of-way practices, he said, "there are still literally hundreds of such operations needing correction." F. R. Layng, consulting engineer of the Bessemer & Lake Erie, sought greater consideration of the economies available from the use of heavier rail and accessories, and a more permanent track structure generally. T. A. Blair, chief engineer of the Santa Fe, pointed to the opportunities for savings in track maintenance expense by various methods of roadbed stabilization.

Dr. Henry T. Heald, president of the Illinois Institute of Technology, and G. M. Megee, research engineer, Engineering division, of the Association of American Railroads, projected the part that industry research—fundamental as well as applied—must play in the future of engineering on the railroads—both indicating unmistakably that the field for scientific investigation is still wide open and begging for attention.

Going forward with the support of such convictions, A.R.E.A. members should be able to record achievements in the years immediately ahead which will excel their notable accomplishments already indelibly inscribed in the archives of the railroad industry.

The railroads do not want government subsidies—they are proud of their accomplishments as a self-supporting industry. They only want relief from subsidized competition; from unreasonable, so-called "featherbedding" labor demands.

It is a problem which can be solved when the shipper, the traveler—the man on the street—realizes that its correction will be *a direct benefit to him*—in lower transportation costs which will be reflected in almost every item of food and every article he buys.

The margin between costs and income of the railroads is so thin that their ability to continue as private enterprises is in jeopardy. But railroad management cannot solve the problem alone—it must have the assistance of men like yourselves, who mold public opinion; they must have the support of an enlightened public generally, and some quick action.

—*From an address to New York security analysts by Donald V. Fraser, president, Missouri-Kansas-Texas.*

Golden Anniversary

A. R. E. A.
CONVENTION SECTION

C. H. Mottier,
president, A.R.E.A.

A bronze medallion paper weight (shown above about 1¼ times actual size) is being distributed to all members of the A.R.E.A. as a memento of the Fiftieth Anniversary

Contents

THE FOLLOWING PAGES ARE DEVOTED TO AN ACCOUNT OF THE GOLDEN ANNIVERSARY MEETING OF THE AMERICAN RAILWAY ENGINEERING ASSOCIATION AT CHICAGO, MARCH 15-17. INCLUDED ARE A HIGHLIGHT STORY OF THE MEETING, ABSTRACTS OF MOST OF THE ADDRESSES PRESENTED, AND BRIEF OUTLINES OF THE COMMITTEE REPORTS, INDICATING THE ACTION TAKEN ON RECOMMENDATIONS CONTAINED IN THEM.

A.R.E.A. MAKES THE MOST OF ITS GOLDEN ANNIVERSARY

Annual meeting at Chicago, with attendance at all-time high, was an occasion for evaluating the association's achievements and appraising the future

Fred S. Schwinn
President Elect

During the week of March 14, the railway engineering officers of the country took a close look at the technical advances they have to their credit during the past 50 years—and generally seemed to be satisfied with what they saw. They also tried to peer into the future in an effort to evaluate the problems waiting there and the opportunities for further progress—and seemed undaunted by the prospect. While thus engaged, these officers had the opportunity of inspecting a record display of manufacturers' products designed for use by the railroads' construction and maintenance forces—and found therein an arsenal of weapons with which to fight high costs.

All these activities occurred on the occasion of the Golden Anniversary meeting of the American Railway Engineering Association held at the Palmer House, Chicago, March 15-17. To make the most of the opportunities presented for gaining a perspective of past achievements and future opportunities, a special program had been developed, which called for the presentation, during the regular sessions of the three-day meeting, of 21 addresses and 20 committee reports. In addition, in the way of special events, there was an evening session and a banquet, each featured by a major address, and an attractive display of 600 photographs, depicting progress in railway engineering during the past 50 years.

Establishing a tempo that held throughout the meeting, the opening session on Monday was featured by five addresses, the first of which was by C. H. Mottier, president of the A.R.E.A., and vice-president and chief engineer of the Illinois Central. Following Mr. Mottier came Max K. Ruppert, president of the National Railway Appliances Association, and president of the P. & M. Co.; J. H. Aydelott, vice-president, Operations and Maintenance department, Association of American Railroads; Ralph Budd, president of the Burlington Lines; and H. T. Heald, president of Illinois Institute of Technology. Abstracts of the addresses by Messrs. Ruppert, Aydelott, Budd and Heald appear on following pages.

President Mottier's Address

Explaining that the dominant factor in the year's activities was the observance of the Golden Anniversary, President Mottier said that every effort had been made to give this occasion proper recognition. He called attention to the various special features of the program, including the "outstanding exhibit of railway appliances now on display at the

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TREASURER
J. D. Moffat, chief engineer, West. Reg., Penna., Chicago

SECRETARY
W. S. Lacher, 59 E. Van Buren street, Chicago

ASSISTANT SECRETARY
Frank McNellis, 59 E. Van Buren street, Chicago

G. L. Sitton
Vice-President

H. S. Loeffler
Vice-President Elect

Walter S. Lacher
Secretary

Coliseum," and expressed gratitude to the National Railway Appliances Association which was sponsoring the exhibit. Referring to the accomplishments of the A.R.E.A., Mr. Mottier expressed regret that "proper recognition cannot be given to many individuals who have made the achievement possible." "However," he said, "our association stands today where it is because of the loyalty and service of those members who have contributed to committee activities, payment of dues, attendance at annual meetings and in many other ways, but who have never received official recognition." Special recognition was extended by Mr. Mottier to Augustus Torrey, one of the founders, L. C. Fritch, first secretary, and J. S. Wallace, first president. "We are greatly indebted to these men," he said.

Continuing, Mr. Mottier noted that the "fundamental policies and general program established by the founders of our organization have been so little changed through the years"; described the relationship of the A.R.E.A. to the A.A.R., explaining its advantages; mentioned the "fine work" that has been done in recent years by the Research committee of the Engineering division, A.A.R.; and spoke of the "challenging opportunity" before the association to serve and interest its junior members.

Confidence in the Future

Turning his attention to the future, Mr. Mottier said that the railroads would be preserved only "as long as they perform essential service at a cost which patrons can afford to pay and which competitors cannot afford to undersell," and that "our challenge as individuals is to do our full share in achieving this goal of economy and usefulness." He said that he had "never felt more confident of the potentialities of the service which the American Railway Engineering Association can render than I do at this moment." He told the members of the association that "we must face the future with a full realization of our responsibilities and with a willingness to do our full share in meeting them. Those who have preceded us have done their work well. We have a past of achievement, but we also have what is much more important, a future of opportunity. Let us meet it with the best we have."

Another feature of the opening session was the annual report of Secretary Walter S. Lacher. Thanks to a program launched by President Mottier "to give full and appropriate recognition" to completion of the association's first half century, said Secretary Lacher, the "year now coming to a close has been marked by a number of noteworthy records." Enumerating these, he said that on February 1, 1949, the membership of the association totalled 3,008, the greatest in its history, while the increase in the number of members during the year was the greatest of any 12-month period. Also, he said, both the receipts and disbursements in the calendar year of 1948 were greater than in any previous year, the balance on hand at the end of the year has been exceeded only once, the number of members on the rosters of the standing committees is now the largest on record, and the association "is now the beneficiary of the largest appropriation for research work of the Engineering division ever to be provided as a result of the cooperative arrangement with the Association of American Railroads, $372,457 having been allotted for this purpose for the calendar year of 1949."

Because of the unusual number of addresses to be heard, in addition to the regular committee reports, a procedure was adopted which was a wide departure from the usual pattern for A.R.E.A. meetings, that is, separate concurrent sessions were held. There were two such sessions on Tuesday afternoon, and again on Wednesday afternoon. Since it is necessary that recommendations of committees be voted on by the

membership as a whole, these recommendations were presented separately from the reports. Thus, the recommendations of one group of committees were presented for consideration during the afternoon session on Wednesday, when the entire body met as a group, and those for the other committees were presented at the final session on Thursday morning. Brief outlines of the committee reports, indicating the action taken on committee recommendations, appear on subsequent pages.

For the most part the addresses, except for those during the opening session and other special occasions, were of a technical nature, designed to inform the members of the progress made, and of the problems remaining, in various branches of endeavor in the railway engineering field. They covered a wide range of subjects, from roadbed solidification to the effect of Diesel operation on the fixed properties of the railroads. Sixteen such technical addresses were presented, of which 13 are abstracted on later pages of this report.

The three addresses that are not abstracted formed part of a symposium in which the speakers endeavored to answer the question: How can the railroad construction and maintenance engineer best meet increasing costs of labor and material? The addresses composing this symposium—one dealing with heavier rail, another with increased mechanization, and the third with roadbed stabilization—are to be published in full in a later issue.

Two addresses were designed to give members a general resumé of the achievements of the A.R.E.A. and an evaluation of its future opportunities. The one on achievements, given by H. R. Clarke, chief engineer of the Burlington Lines, was read at an evening session on Tuesday. This session, to which ladies also were invited, included entertainment and the showing of the motion picture "Wheels A' Rolling." The address on the future opportunities of the A.R.E.A. was presented at the closing session on Thursday by E. M. Hastings, chief engineer of the Richmond, Fredericksburg & Potomac.

Faricy Speaks at Banquet

Reviving a former practice that was discontinued during the depression years, a banquet was held on Wednesday evening, at which the principal speaker was William T. Faricy, president of the Association of American Railroads. All those in attendance at the banquet were presented with bronze medallion paper weights, suitably inscribed, as mementoes of the association's fiftieth anniversary. The addresses by Mr. Faricy, Mr. Clark and Mr. Hastings, in abbreviated form, appear below.

All sessions of the convention were presided over by President Mottier, assisted by Vice-President Fred S. Schwinn, assistant chief engineer of the Missouri Pacific Lines, Houston, Tex., and by Secretary Lacher. Reflecting the special nature of the occasion, and the keen interest of members and railway engineering officers generally in the affairs and future of the association, the total attendance at the meeting hit a new all-time high. The registration included 1,190 members and 934 guests, a total of 2,124, which compared with 940 members and 750 guests, a total of 1,690, at the 1948 annual meeting. The registration for 1948 constituted the previous high record for attendance at A.R.E.A. conventions.

The following officers were elected to direct the affairs of the association during the ensuing year: President, Mr. Schwinn; vice-president to serve for two years, H. S. Loeffler, assistant chief engineer of the Great Northern, St. Paul, Minn.

The directors named were I. H. Schram, chief engineer, Erie, Cleveland, Ohio; A. B. Chapman, assistant chief engineer, lines east, C.M.St.P.&P., Chicago; Neal D. Howard, western editor, *Railway Age*, Chicago; and C. B. Bronson, maintenance of way assistant to vice president, New York Central, New York. Members of the nominating committee are: R. P. Hart, chief engineer, Missouri Pacific, St. Louis, Mo.; J. C. Aker, chief engineer, Nashville, Chattanooga & St. Louis, Nashville, Tenn.; F. H. Simpson, engineer maintenance of way, Lines West, New York Central System, Chicago; G. M. O'Rourke, assistant engineer maintenance of way, Illinois Central, Chicago; and A. N. Laird, chief engineer, Grand Trunk Western, Detroit. In addition, G. L. Sitton, assistant chief engineer, Southern, Washington, D. C., and vice president of the association, was advanced automatically to senior vice-president, succeeding Mr. Schwinn.

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Role of the N.R.A.A.

In his address at the opening session Max K. Ruppert, president of the National Railway Appliances Association, first explained the objectives of that association and indicated that he would tell the "simple story of how these objectives are being achieved by the continuous cooperation afforded" by the A.R.E.A. Referring to the "small beginning" of the Manufacturers' Association in 1894, Mr. Ruppert declared that the formation of this group was timely because it "stimulated individual initiative and a searching endeavor on the part of the manufacturers to integrate their manufacturing activities to meet the growing demands of the railroads."

He said that the companies making up the membership of the N.R.A.A. "had concentrated their endeavor on creating organizations whose personnel are specialists in this chosen field." In training this personnel, he said, "the emphasis is always on rendering service to the organizations through which we enjoy our contact with railroad management—specifically, the engineering department." Developing the relationship between the two associations, Mr. Ruppert explained how requirements in tools, machinery and appliances are generally disclosed through the activities of the various committees of the A.R.E.A., and that suppliers' representatives have, in the meantime, through individual contacts with railroad men, gained some knowledge of the needs for changes and refinements. Their respective companies then "immediately undertake studies to effect a constructive solution."

The joint endeavors of the two groups, said Mr. Ruppert, have resulted in economies in maintenance-of-way costs to railroads; "likewise for our industry they have made possible the widening of horizons for service."

Discussing research, Mr. Ruppert said he was "confident that in this field the activities of your association will be correlated with those of the members of our association in the same spirit of cooperative effort which has characterized our relationship for the half century just concluded." He expressed the opinion that the joint exchange of knowledge in the field of research is essential to further progress, and that failure to follow this course "leads to an abuse of the advantages offered by research in that it tends to circumscribe or place limitations on ingenious and resourceful thinking and the application thereof to the results of research." He said that research "should point the way—human ingenuity should develop the manifold forms by which the desired results can be achieved." "Our industrial greatness has been built upon this principle," he said, "and failure to keep this fact uppermost in our minds invites sterility of thought and cessation of progress."

The Engineer As Spokesman

Speaking at the opening session, James H. Aydelott, vice-president, Operations and Maintenance department, A.A.R., appealed to "you engineers" to "seize every opportunity to state the case of the railroads." Because the engineering profession is "known to be a conservative one," said the speaker, "people, more than you think, will be inclined to listen to what you have to say and profit by it."

Stating that the railroads must find some way to halt the upward curve in materials and labor costs, in taxes and in subsidies to their competitors, Mr. Aydelott expressed the opinion that the railway engineer has "an unusual opportunity" for carrying the railroad story to the people. "He sees a lot of farmers, highway commissioners, city officers and other groups, including employees of his railroad in other crafts." And he has good reason to want to do the job; "there is no one to whom the continuing solvency of our railroads means more than to the railroad engineer, because, without adequate earnings to support construction and maintenance programs, his future certainly is not bright."

The speaker discussed in considerable detail the effect of the Diesel locomotive on roadway standards. Identifying "your next speaker, Mr. Ralph Budd," as the man who introduced the modern Diesel into passenger train service, Mr. Aydelott asserted that "the development of the Diesel locomotive and lightweight equipment marked a turning point in the fortunes of our railroads—particularly as to construction expenditures." Prior to the introduction of this power in road service, progressive increases in the size and weight of steam locomotives and of freight and passenger train equipment created serious roadway problems, and the roads faced expenditures of millions of dollars to strengthen bridges and track to accommodate them. "The Diesel locomotive," he said, "has pushed these expenditures far into the future."

Declaring that preliminary reports indicate that "we have nothing to fear" in the behavior of the outer rail of curves under the operation of high-speed Diesel-hauled freight and passenger trains, Mr. Aydelott hoped the members would be furnished, in the course of the convention, the results of research conducted on this subject in 1948. "It is most evident," he asserted, "that, as the cruising speeds in both classes of service are accelerated, we shall have to maintain our track structure to more perfect standards, if good riding qualities are to be insured." He foresaw that this refinement would involve "an easing of both vertical and horizontal curves"—both for comfortable riding and to cut maintenance costs, and give opportunity to relieve drainage problems.

Engineers' Responsibilities Today

It is surprising how many of the problems first encountered by railroad engineers are still before them, said Ralph Budd, president of the Burlington Lines, in his address at the opening session. Such matters as the width of roadbed, cut and fill slopes, drainage, design of bridges, kind and size of ties, and the best rail section and fastenings to use, "were among the things to be determined then and are among our important problems today," he said.

Reviewing some of the standards of railroad construction used in the early days, Mr. Budd said that in most cases the early engineers "desired to build as rapidly and cheaply and as many miles as possible with the resources that were available to them." It was inevitable, however, that the question of economics should enter into the railroad field, bringing an era when millions of dollars would be spent for revising and shortening lines and reducing gradient and curvature. As a result, "hundreds of miles of railway lines were rebuilt, in some cases more than once, as the value of better grades and curves was demonstrated, and partly also because of the growing volume of traffic."

Speaking of the efforts of engineers to keep the properties abreast of developments in rolling stock and traffic, Mr. Budd said that "railway construction and maintenance engineers have engaged in what is sometimes characterized as perpetual warfare with mechanical engineers who have been responsible for the continually increasing size of locomotives and cars." "It appears now," he said, "that that particular battle is ended, with the roadway forces victorious, although in truth it may be said that the mechanical engineer ended the war by finding a way to increase tractive power through the use of more driving axles, rather than by heavier weight per axle."

New materials and new track tools and machines have placed on the railway engineer a new responsibility in choosing the best from among the many superior appliances, said the speaker. In this day of accelerated progress in mechanization of maintenance work, said Mr. Budd, "the railroad engineer

must be alert not to be found doing work in the old-fashioned way with obsolete tools, when it can be done better and cheaper by machines." On the other hand, he continued, "he must not be caught making a change when the practice being followed is better than that proposed." In Mr. Budd's view, "the very multitude of new things, new ways of doing old things, including the use of off-track machines and conveyances, call for an alertness which, in my opinion, exceeds that required by the railway engineer of any earlier generation."

What the A.R.E.A. Has Done

The role of the A.R.E.A. in helping to bring the fixed properties of the railroads to their present high standards of construction and maintenance was outlined in a comprehensive manner by H. R. Clarke, chief engineer of the Burlington Lines, in his address on the Achievements of the A.R.E.A., which was presented at the Tuesday evening session. A comparison of the track of today with that of fifty years ago, with special reference to the improvements that have been made in rail sections, was drawn by Mr. Clarke to show the progress that has been made. "Our association," he said, "is proud of the large part we have had in all of this."

Next, he gave a background of the conditions that confronted railway engineers at the turn of the century, pointing out that, while the gage of the track had been largely standardized, the situation regarding uniformity of practice in connection with the fixed properties was "becoming more confused." The chief engineers of the time, he said, were "rugged individualists, each with supreme confidence in his own ability and judgment." For this reason, said Mr. Clarke, a strong organization of unquestioned professional standing was required if its recommendations were to have any weight. He paid tribute to the men who have labored on the committees of the association, saying that "only men deeply interested in their work and devoted to it could carry on year after year on some of the assignments."

From this point on Mr. Clarke's remarks consisted largely of a recitation of the various ways in which the design, construction and maintenance of the tracks and other properties have undergone improvements during the past fifty years, and of the part that the A.R.E.A. has played in bringing about the improvements. Among other things, he described the evolution of the track structure, reviewed the development of specifications covering tie standards, told how the practice of treating ties against decay has cut annual tie renewals practically in half, and stated that specifications covering various types of ballast, as adopted by the A.R.E.A., now serve as a standard and guide to enable track maintenance officers to decide the kind and quality of ballast which may be used to best advantage.

Discussing structures, Mr. Clarke told how the A.R.E.A. developed plans and specifications for both steel and timber bridges, how it took the lead in developing designs, specifications and methods pertaining to masonry structures, how extensive impact tests have proved beneficial in bridge design, and how the association has been influential in improving buildings of all types.

With respect to rail sections, Mr. Clarke related how the A.R.E.A., to reduce the "fantastic" variety of sections in existence 50 years ago, has from time to time adopted standard rail sections. The part that the association has played in the development and perfection of equipment for testing rails in track was outlined, as was its part in developing the practice of retarding the cooling of rails to prevent the formation of shatter tracks and subsequent transverse fissures.

Research and investigation work in connection with rail joints, the preparation of plans and specifications for tie plates and other track fastenings, and the development of a portfolio of plans for special trackwork, and another one for track tools, were other accomplishments of the A.R.E.A. mentioned by Mr. Clarke. Its work in connection with curves, the location and design of yards and terminals, the improvement of passenger stations, the efficient and effective use of labor, and the furthering of engineering research in the railway field were still other A.R.E.A. achievements discussed by Mr. Clarke.

Hindsight and Foresight

Speaking at the banquet on Wednesday evening, President William T. Faricy of the Association of American Railroads took, with his listeners, "a 50-year look backward as a starting point for a 50-year look forward," explaining that his purpose was to discuss "what has happened in the past only as it may serve as a guide in the perilous business of prophecy as to the future."

The railway engineer of 50 years ago was faced with enough immediate problems to keep him busy, stated Mr. Faricy, and it was not given to him to see that the day of the 100-ton locomotive would pass, that it would be succeeded by the 500-ton locomotive, that the freight traffic per mile would be multiplied by four and the passenger traffic per mile by two and one-half. "But while the men of 1899 probably did not foresee the conditions of 1949, they were at work laying the foundations for meeting these conditions, insofar as construction and maintenance engineering could do so."

Reviewing some of the gains that have been made in the engineering field, Mr. Faricy said that today's track structure "handles its job better" than did the track structure of 50 year ago, and, furthermore, that the "study and research which produced such results are going on today, on a broader front and at an accelerated pace."

Mentioning some developments that could not have been foreseen 50 years ago, Mr. Faricy explained that he did so "as a sort of justification and plea-in-advance for leniency in judgment should anyone chance, fifty years hence, to take a look at the ideas expressed on this day—ideas, no doubt, that will seem quaint to the railroad men of 1999." Looking ahead "to

some broad fields of certainty," he said that "we are justified in accepting the fact . . . that the demand for transportation service will increase." If this is true "then we can assume that railroads must grow in strength and capacity, for only on railroads, in trains of cars on tracks, it is possible to meet now or in the future the tremendous transportation demand of this country."

The real uncertainty of the future is not whether the great basic transportation of the country will be carried in trains of cars on tracks, declared Mr. Faricy—the real uncertainty applies to the conditions under which the trains will be operated, and whether investment funds will be available to use what science and invention have produced. Stating that the people of the United States are committed to the principle of private ownership and operation of railroads, Mr. Faricy said that if government ownership and operation of the carriers should ever come to pass in this country "it will not be because a majority of our people want it," but "because conditions beyond the control of the railroads might make impossible the continuation of an adequate rail transportation system created and improved by private investment, and managed by private initiative."

Turning to a discussion of the relationship between expenses and revenues, Mr. Faricy stated that "great changes in these relationships in the past 50 years" have occurred. Against increases of more than 500 per cent in annual compensation for employees, 300 per cent in the prices of the things railroads must buy, and more than 2,000 per cent in taxes, in the past 50 years, said the speaker, the average charge for hauling a ton of freight one mile on the railroads has gone up less than 80 per cent, and the average charge for carrying a passenger one mile has gone up less than 30 per cent. In the absence of some countervailing factor, such disparity "must long ago have brought about the end of the railroads as self-supporting, privately-operated industries," he said. This hasn't happened, he continued, because there have been other factors at work, such as research and the investment of private funds on a vast scale, resulting not only in increased capacity but a gain in efficiency as well. Mr. Faricy observed that in spite of the contributions of research and other factors, it has not been possible to keep the net railway operating income up to the point "where it should be to insure strong and healthy railroads in the future." The problem of providing adequate earnings for the railroads, he said, "is the real challenge, not only to railroad men, but to their shippers and to government."

Future Opportunities

The final address to be delivered at the convention was that on Future Opportunities of the A.R.E.A., by E. M. Hastings, chief engineer of the Richmond Fredericksburg & Potomac. In evaluating the opportunities for future progress, the A.R.E.A., according to Mr. Hastings, could profit by the thinking of Patrick Henry, as revealed in the quotation: "I have but one lamp by which my feet are guided and that is the lamp of experience. I know no way of judging the future but by the past." Mr. Hastings would have the A.R.E.A. use the experience of the past as "the lamp to guide our feet in the years ahead."

Following this guide, the first step indicated, he said, is the full use of capable young men as they emerge from colleges and universities. The future of the railway engineering profession, he declared, is dependent to a large degree on the extent to which use is made of this talent. An effort must be made to convince executives "that the trained mind of the engineer is a resource that has great powers of expansion, such as will be needed to meet the constantly increasing pressures that are abroad in the land."

Mr. Hastings finds "oil for the lamp that is to guide us in the splendid results that are coming to us through research." In this connection he cautioned against the dangers of allowing disappointments resulting from failures to impede progress, and also asserted that engineers should not "pass by anything that research and development bring forth simply because they do not think there is much in it." Referring to the work of younger men, he said that "some of the experiences may produce a light that will push us ahead in the practical knowledge of how to do things and do them better than they have been done before."

Among the "many lamps" illuminating the future, said Mr. Hastings, is the development of more and more machines to do the work that in the past has been performed through the labor of men. Because of the imminence of the five-day week in the railroad industry, Mr. Hastings declared, there must be constant effort in the future to obtain a permanent track, "especially one that does not need such frequent and minor repair."

In his closing words Mr. Hastings warned his listeners against the constant growth "of the power of the state with the diminishing value of the individual." Stating that "we are on our way to state socialism or something worse if we continue to permit our liberties to be taken from us one by one," he said that those who believe in the rights of the individual should let their views be known "and not calmly stand by and see ourselves coddled from the cradle to the grave by those whose motive is political and selfish."

Management must plan its production so that the end result is a cost which is sufficiently less than the selling price to give a margin which will cover taxes, fixed charges, etc., and still leave an adequate return on the invested money.

Since the selling price of railroad transportation is controlled by the Interstate Commerce Commission, the cost of producing the service must be controlled with exceptional care. Some day, sometime, somewhere, a halt must be called on these "make-work" demands if the industry is to survive. If we do not survive, neither will the employees or the unions who represent them.

—From testimony given by J. M. Symes, vice-president, operation, Pennsylvania, at Chicago, March 14, before the fact-finding board studying the Brotherhood of Locomotive Engineers' application for a second engineman on Diesel-electric locomotives

TECHNICAL ADDRESSES COVER MANY SUBJECTS

Abbreviated versions of 13 papers read before the A.R.E.A. meeting, which deal with a wide range of topics of direct interest to railway engineering and maintenance officers

Not included here are three addresses that comprised a symposium on the subject: How Can the Railroad Construction and Maintenance Engineer Best Meet Increasing Costs of Labor and Material? Participating in this discussion were F. R. Layng, consulting engineer, Bessemer & Lake Erie, who spoke on heavier rail; S. R. Hursh, assistant chief engineer—maintenance, Pennsylvania, who discussed Increased Mechanization; and T. A. Blair, chief engineer system, Atchison, Topeka & Santa Fe, whose subject was Roadbed Stabilization. Substantially complete versions of these addresses will appear in a later issue.—Editor

Value of Crossing Protection

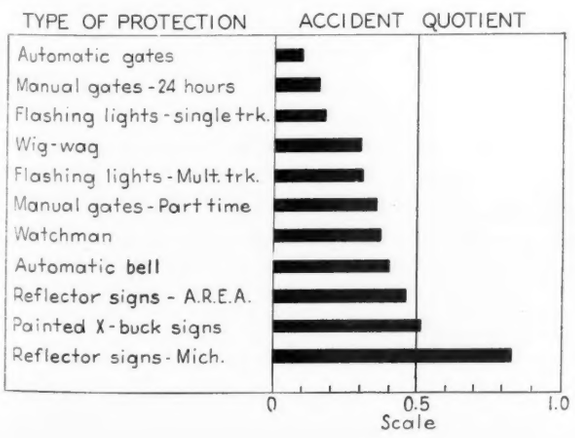
The use of a 20-year record of experience with grade crossing protection of various types on the Wabash, to arrive at figures showing the relative effectiveness of the different types, was explained step by step in an address by W. J. Hedley, assistant chief engineer of the Wabash, on Achievements of Grade Crossing Protection, which was presented at the closing session on Thursday. Mr. Hedley said that fortunately a complete record was available of all the changes made in crossings and crossing protection, and of all the accidents which have occurred at highway crossings on Wabash lines since January 1, 1929.

From data on the amount of rail and highway traffic, Mr. Hedley obtained a figure for each year which he called the accident potential. He then showed that there was a correlation between the accident potential and the number of accidents occurring at crossings where no changes were made in protection during the 20-year period.

Mr. Hedley then turned his attention to those crossings on the Wabash where, during the 20-year period, protection was changed from one form to another. This group consists of 321 individual crossings, at 20 of which protection was changed twice during the 20 years. Nine types of protection were used at these crossings, ranging from painted crossbuck signs to automatic gates. For the purpose of his analysis, Mr. Hedley developed a figure showing the number of years each type of protection was in service, these figures being equated to give them a uniform basis. The total for all the crossings came to 6,300 crossing-years of experience, "an adequate figure from which to draw some conclusions."

Mr. Hedley then began an analysis of experience for the various types of crossing protection, based on the number of accidents per equated crossing-year. Noting, however, that traffic conditions may vary at different crossings, his analysis was based on the accidents occuring at the same crossing before and after the type of protection was changed. On this basis he developed tables showing the accidents per crossing-year before and after protection was changed, the figures being given for various combinations of changes. Mr. Hedley then developed for each type of crossing protection a figure which he called the "final accident quotient."

Having the smallest accident quotient, automatic gates constitute the most effective form of protection, according to this formula. Next in order are manual gates operated 24 hr. daily, flashing-light signals at single-track crossings, wig-wags, flashing lights at multiple-track crossings, manual gates-part time, watchmen, and automatic bells. Finally come the different forms of fixed signs.



Accident quotients for different forms of crossing protection, expressed graphically in preferential order

Diesel Locomotives And the Fixed Properties

In an address on the Effect of Diesel Operation on the Fixed Properties of American Railroads, J. B. Akers, chief engineer of the Southern System, first described some of the characteristics of Diesel locomotives and then discussed the problems involved in adapting the properties to the operation of this type of power. These problems have their origin in the fact, he said, that the requirements for the maintenance and operation of steam and Diesel power are so different.

Difficulties are encountered in adapting steam roundhouses to the handling of Diesel locomotives, said Mr. Akers, although the dictates of economy sometimes require that this be done. Some of the physical requirements for Diesel servicing and repair facilities were then described, including the dimensions between various working levels. As far as some of the facilities are concerned, he said, including the working pits, the facilities for changing out wheels and trucks, and overhead cranes, their characteristics will depend on the number of Diesels to be handled. The requirements for heavy repair work, for the storage of fuel oil and other kinds of oil, and for washing facilities, sanding equipment, and water supply and treatment were given attention. When a territory is completely Dieselized, said Mr. Akers, all the steam facilities can be eliminated and substantial economies thereby realized.

In its effect on tracks and bridge structures "there are many advantages in the Diesel, and at the same time some things which seem now to be disadvantages," according to Mr. Akers. While the wheel loads of Diesel locomotives are less than those for steam, he pointed out that contact pressures and internal bearing stresses in the rail head, being a function of the diameter

of the wheel as well as of the load itself, are less for steam locomotives than for Diesel engines which have relatively small wheel diameters. This situation, he said, is expected to have an influence on rail-end batter, flow of metal on curves, and the development of transverse fractures within the rail head.

Despite the lighter wheel loads for Diesels the bending stresses in rail under such locomotives are not much less than for a modern steam locomotive properly counterbalanced, he said. On the other hand, according to Mr. Akers, measurements made on 132-lb. rail on tangent track show that the range of stresses in the upper web and fillets are only about one-half as great under Diesels as they are with modern heavy steam locomotives. This, he said, is a definite advantage. Tests have also indicated, he continued, that lateral forces exerted on a 10-deg. curve are much less under Diesel locomotives than for steam.

Mr. Akers implied that too much emphasis should not be placed on track damage due to locomotives, saying that the "proportion of this so-called track damage that may result from the character of locomotives used may be confined to 10 per cent or less of the total." It is his observation that more damage often is done to rail and track by flat wheels or out-of-round wheels than by well-maintained and properly counterbalanced steam locomotives. With regard to the relative effect of the two types of power on bridges, Mr. Akers said that impacts under Diesel locomotives have been shown by tests on 30-ft. to 110-ft. spans to be somewhat less than those induced by steam locomotives although traction stresses in the longer spans will be higher for Diesels than for steam locomotives.

Repairing Stone and Concrete Masonry Structures

In an address supplementing the report of the Committee on Masonry, A. Norman Laird, chief engineer of the Grand Trunk Western, reviewed the more common types of failures in stone and concrete masonry structures and the now more generally accepted methods of repairing such failures. He spoke of the "notable examples" of masonry structures on the railroads "which are giving safe and dependable service after eighty or ninety years or more," but said that it should be frankly recognized that all structural materials are subject to deterioration when exposed to the elements, and that eventually, after years of service and exposure, any masonry structure may require repairs and possible restoration.

In discussing the various currently accepted methods of repairing or restoring such structures, Mr. Laird emphasized the importance of adequate inspection and preliminary work preparatory to actual repair operations. Methods of repair or restoration were classified broadly under the headings of patching, restoration, encasement and internal grouting. Patching, he said, is generally applicable where there is local disintegration of the surface, spalling, surface checking and crazing, or where sections of the surface material have separated from the main mass, or where there is loose, honeycombed or disintegrated concrete or stone over small areas of the surface.

For repairing large surface areas or for restoring disintegrated material which extends to considerable depth—and even for the purpose of strengthening existing structures—the speaker listed and described the placing of ordinary concrete, the application of shotcrete, and the pressure grouting of concrete aggregates. Shotcrete he defined as a material consisting of portland cement, sand and water, placed pneumatically by means of equipment which discharges water and premixed cement and sand, under regulated pressure, through pipes or hose and a discharge nozzle—the water being combined with the sand-cement mixture at the nozzle.

In the method involving the pressure grouting of concrete aggregates, well-graded concrete aggregates are first compacted back of the forms, are wetted, and are then grouted with a mixture composed of one part portland cement, three parts of fine graded sand and a suitable admixture.

Internal grouting was said to have been found particularly effective in solidifying the interiors of many early stone masonry structures built without much attention being given to the necessity of filling large internal voids and to the cementing of areas between internal stones, which were placed at random. This method of repair the speaker described as consisting essentially of drilling holes into the interior of the structure at intervals in carefully selected locations, and, after suitable preparation and exploratory work, grouting these holes full of a mixture composed of portland cement, fine sand and an admixture. All of the repair and restoration methods described were illustrated by lantern-slide pictures of actual structures before and after repairs were made.

Recent Developments In Water Treatment

The importance of an adequate supply of high-quality water as an operating essential of all railroads employing steam and Diesel power came in for attention in an address by R. C. Bardwell, *superintendent of water supply of the Chesapeake & Ohio. Pointing out that water is used in greater quantity, both by volume and by weight, than all other material used by the railroads, he said that it can be readily understood how a variation in quality of water has a very definite effect on operating economy and efficiency.

Speaking of the accomplishments in railway water treatment, which he attributed largely to the work of the A.R.E.A. Committee on Water Service and Sanitation, assisted in some instances by water treating concerns, Mr. Bardwell listed the following, as pointed out in the 1946 Proceedings of the Master Boiler Makers' Association:

(1) Made possible long runs of steam locomotives.

(2) Permitted use of high-power locomotives.

(3) Reduced fuel consumption.

(4) Saved the railroads not less than $30,000,000 annually.

(5) During each war year, saved a substantial tonnage of steel.

(6) Contributed very largely to the high availability of steam locomotives, which made it possible for about 42,000 locomotives to deliver nearly twice the work done by 64,000 locomotives in World War I.

(7) Reduced shopping time of locomotives to the minimum required by mechanical repairs.

(8) Contributed to a performance record wherein boiler failures are virtually eliminated.

Turning to a recitation of the more important recent developments in water treatment, the speaker listed the following:

(1) The practical elimination of internal boiler pitting and corrosion through research, and the determination of practical amounts of excess alkalinity to be carried in boiler water (boiler pitting and corrosion were reported in 1924 as costing the railroads $12,000,000 annually).

(2) Reduction of scaling matter remaining in water after treatment with lime-soda ash by the use of small amounts of sodium aluminate.

(3) Reduction of incrustation and after-precipitation in pipe lines, valves, water columns, branch pipes and injectors by the use of small amounts of recently-developed complex polyphosphates and, in some cases, this material mixed with tannins.

(4) Reduction, and practical elimination in many territories, of intercrystalline cracking (caustic embrittlement), by taking advantage of the recommendations for using small amounts of sodium nitrate or suitable organic materials as developed in the research work at the Bureau of Mines under the direction of the Joint Committee on Boiler Feed Water Research.

(5) Decrease in the amount of blowdown required, with consequent saving in fuel and increased availability of the

In the absence of Mr. Bardwell, his address was presented by H. F. King, retired special engineer of the Erie

motive power. By the use of special amide-type anti-foam mixtures developed in the research laboratories of the water treatment specialty companies, foaming delays have been practically eliminated.

(6) Development and use of small, convenient conductivity sets calibrated to read the concentration of boiler water salts directly on the dial.

(7) The recirculation of sludge in lime-soda plants, and refinement in plants of the sludge-blanket type, which prove effective for lowering and controlling the hardness and scaling matter remaining in the treated water.

(8) The standardization of methods of water analysis and interpretation of results for raw, treated and boiler waters.

Future developments and problems to be handled in the conditioning of railway water supply, Mr. Bardwell said, will probably be concerned with improvements in sludge recirculation and sludge-blanket lime-soda plants for large capacity installations, and with improved controls for the smaller wayside plants. Particular attention will also be given to methods for developing and checking the tannin and organic materials used in water treatment, he said.

Progress was reported in the new polyamide type of antifoam materials, in studies for improving the water conditions on Diesel power units, and in hydrants and other equipment for handling drinking and culinary water.

This and the other illustrations in this article were made while railway officers and supply men were previewing the N.R.A.A. Exhibit at the Coliseum on Monday. Above, left to right: R. E. Buss, supt. m. w. equip., I.C., Chicago; R. E. Berggren, supvr. m. w. equip., I.C., Chicago; O. H. Wainscott, asst. to engr. m. w., I.C., Chicago; R. W. Stenzel, sales repr., Fairmont Railway Motors, Chicago; L. L. White, supvr. m. w. equip., I.C., Memphis, Tenn.; and E. E. Christoph, lead motor car repairman, I.C., Carbondale, Ill.

What We Know About Impact

A summary of the knowledge developed in recent years as a result of tests to determine impact stresses in bridges was contained in an address read by A. B. Chapman, assistant chief engineer of the Chicago, Milwaukee, St. Paul & Pacific, following presentation of the committee report on Impact and Bridge Stresses. Defining impact as the "additional force produced by a moving load over that produced by the same load at a state of rest," Mr. Chapman said that the total impact effect produced by a locomotive moving across a bridge results from several individual effects, namely, the roll effect, the speed effect, the track effect, and the hammer-blow effect.

Discussing the results of impact tests made by the research staff of the Association of American Railroads, Mr. Chapman referred first to the tests on short-span bridges that were started in 1941, with measurements being made under both steam and Diesel locomotives. These tests showed, he said, that the static stresses in short-span bridges under both types of power are usually less than those calculated; that the static stresses recorded under Diesels are only about 60 per cent of those for modern steam power; that the maximum stresses resulting from wheels striking a battered joint at the center of a span occur at speed of 20 to 30 m.p.h.; that the impact percentages recorded with a battered joint at the center of the span are about the same for Diesels as with steam locomotives; that the maximum recorded stresses under both types of power resulting from all the individual effects were obtained at a speed of 50 m.p.h.; and that the maximum impact percentages resulting from all the simultaneous individual effects were only about 75 per cent of the recorded static stresses, instead of the values of over 100 per cent formerly used by bridge engineers.

Mr. Chapman then discussed briefly the results of impact tests made on girder spans ranging in length from 40 ft. to 140 ft. Important among the findings from these tests is the fact that the total maximum impacts are in fair agreement with the revised A.R.E.A. impact formula. Observations regarding the impact stresses recorded in various parts of girders were also made by Mr. Chapman.

Next he turned his attention to the results of impact tests that have been made in older truss spans carrying modern power. Among other things these tests have shown that stresses in the top chords of through spans are greater than the calculated stresses, while those in the lower chords are smaller than the computed figures; that maximum impacts occur at a relatively low speed; that impacts on various members of a truss span are not the same; that the secondary or bending stresses in some of the older bridges are sometimes extremely large; and that the elasticity of the supports for any structure plays a very important part in the amount of impact sustained by the structure.

Mr. Chapman also summarized the results of impact tests on timber ties in open-deck bridges, made some preliminary observations based on impact tests on timber trestles, and referred briefly to the results of recent strain-gage measurements on two large concrete piers, which indicated an increase in the soil pressures with an increase in locomotive speed.

Soil Mechanics and The Railroad Engineer

Among civil engineers, railroad engineers are in all likelihood the keenest observers of the behavior of natural soil deposits, said Professor R. B. Peck, research professor of soil mechanics at the University of Illinois, in an address on the Future of Soil Mechanics in Railroading. His reason for this belief is that railroad engineers must live in intimate relationship with soil problems year after year. Professor Peck expressed the further opinion that, if railroad engineers learned to supplement their field data with some knowledge of soil mechanics, they would be "in a very favorable position to know what the proper treatment may be."

Reviewing the trend of knowledge and thinking in the soil mechanics field, Professor Peck said that most

investigators originally believed that eventually it would be possible to design foundations or to select the slopes of embankments and cuts by the same sort of procedures that were being used successfully for the design of concrete or steel bridges. Experience has demonstrated, he said, that this expectation was not well founded. Investigators soon became convinced that the results of laboratory tests and theoretical computations were in themselves an insufficient basis for design, the reason being the natural variations that occur in the physical properties of every soil deposit. Eventually, said Professor Peck, it became apparent that theoretical computations based on soil constants derived from laboratory tests provided no more than a standard against which field performance could be compared. He believes that the "current emphasis on soil mechanics as such will ultimately disappear and that the most fruitful concepts that have come out of this study of the subject will be incorporated into the general field of civil engineering."

Soil mechanics has not changed the fact that intelligent field observation is the key to success in all problems involving soils, according to Professor Peck, but it has contributed techniques and knowledge that increases the amount of information that can be obtained from such observations. Discussing these contributions he mentioned first the fact that soil mechanics has provided a system by which soils can be identified and classified in terms of definite physical properties. Using simple tests that have been established for determining the values of the appropriate soil properties, "any engineer who will take the trouble to learn the significance of the test results can adequately describe the soils with which he deals."

The second contribution, he said, lies in certain theoretical concepts, especially those that show the manner in which soils consolidate, the manner in which they fail when overloaded, and the ways in which water influences their behavior. Finally, he said, a large body of experience in soil mechanics is available to the railroad engineer, so that an engineer faced with a problem today can soon find out whether others have faced similar difficulties, what measures were taken, and how well they succeeded.

Assuming the role of prophet, Professor Peck said that eventually almost every railroad will possess the simple equipment needed to make subsurface explorations and will have on its payroll a man capable of using it. He added that each railroad will have at least one small laboratory in which the routine tests for identifying and describing soils can be made. He also believes the day will come when the records of every construction job and of many maintenance jobs will contain adequate descriptions of the soils involved, and when these job records will be digested and correlated to form a perpetually growing mass of experience available to every railroad engineer.

Relation Between Track and Equipment

Studies and investigations dealing with the relation between track and equipment provide a sphere of activity of common interest to the Engineering and Mechanical divisions of the Association of American Railroads, and this was covered in an address by J. R. Jackson, mechanical engineer, Mechanical division, A.A.R., on Investigation of the Relation Between Track and Equipment. To deal with the problem in this category a joint committee of members from the Mechanical and Engineering divisions was appointed in 1938 and reorganized in 1940, when it became known as the Joint Committee on Relation Between Track and Equipment. Under the sponsorship of this joint committee, Mr. Jackson explained, the research organizations of the Engineering and Mechanical divisions have carried out a number of important research programs in recent years. A brief history and statement of the present status of each of these programs were given by Mr. Jackson.

Seven such programs were described. First was a comprehensive series of road tests of locomotive counterbalancing conducted in 1941 and 1942 on the Chicago & North Western near Harvard, Ill. The second was a series of tests made to determine the proper relation of rail and wheel gage and contour for best riding qualities at high speeds. These tests, combined with an investigation of the dynamic balancing of passenger-car wheels, were conducted on main-line track on the Pennsylvania, using a special test train incorporating the Budd research car No. 1. The third research program mentioned by Mr. Jackson, dealing with the permissible wheel load with relation to wheel diameter, has been in progress since 1941 at the University of Illinois, using a rolling-load machine for making the tests.

The fourth research program is an investigation of the impact effect of flat wheels. In this program two series of tests were made, one on the New York, New Haven & Hartford near Boston, Mass., and the other on the C. & N. W. near Harvard. The fifth series of tests, carried out in 1947, was to determine the lateral forces exerted on the track by certain types of locomotives. These tests were made on the Santa Fe.

The sixth research program, conducted to determine the effect of wheel unbalance on riding conditions within passenger cars and on maintenance costs of trucks, was previously mentioned as being combined with the studies of rail and wheel contours. The seventh program, involving tests to be made this year, is for determining the relation of degree of track curvature, speed, and equipment design to riding comfort.

Some of the programs outlined by Mr. Jackson have been completed and the results made available in published form. In other cases the testing work has been finished and the results are being analyzed. Mr. Jackson also mentioned a number of investigations and studies involving the relation between track and equipment, which have been made at the behest of particular railroads by the Mechanical and Engineering division research organizations. Finally, he referred briefly to investigations that have been carried out, or are in prospect, to determine the riding qualities of freight cars equipped with truck design variations and truck spring snubber arrangements.

Timber Treatment—Review and Outlook

A review of the introduction and growth of timber preservation practices on the railroads of the United States comprised the first part of an address on Recent Developments in Preservation Treatment by Dr. Hermann von Schrenk, consulting timber engineer, following presentation of the report of the Committee on Wood Preservation. He traced the growth of interest of railway men in preservative materials, especially for crossties, stating that "a large amount of information was developed with surprising rapidity, so that before very long the standards recommended by the A.R.E.A. were universally adopted by all the railroads that had decided the use of treated ties with one preservative or another, chiefly creosote, was a good practice."

He went on to review the introduction of the empty-cell processes with a consequent "very great saving because of the smaller amount of preservative retained," and development of the practice of adding varying percentages of coal tar to distillate creosote. Today, said Dr. von Schrenk, most of the railroads in America are using coal tar compounds for preserving ties, the practice being to incorporate varying percentages of this material with creosote.

Dr. Von Schrenk next traced the steps that led to the adoption by the Atchison, Topeka & Santa Fe of creosote-petroleum solutions as the standard treatment for ties, and the gradual spread of this practice. Mention was also made of "various new preservatives which are being advocated from time to time, such as pentachlorophenol

and copper naphthenate, and such processes as Celcure. . . ."

To show what preservative treatment has meant in terms of increased tie life, Dr. von Shrenk pointed out that in 1898 an average of 304 crossties per mile was installed in 262,682 mi. of track, or a total of 79,855,328 ties, whereas in 1947 a total of 44,345,925 ties was installed in 379,025 mi. of track, an average of 117 per mile.

With respect to the future, Dr. von Schrenk visualized two things that "are bound to happen." One, he said, will be in the form of changes in the chemical composition of preservatives, particularly of creosote and coal tar, which will further increase the possibility not only of longer preservative service but longer mechanical service. The other thing that Dr. von Schrenk expects to happen is a trend toward increased retention of preservatives in crossties. He is of the opinion that "in some form or other we will devise better mechanical protection than we now have, and should this be the case the railroads would be warranted in giving maximum treatment,"—in other words, increased retention of preservative.

The Future of Research

Research offers the railway industry about the only opportunity to meet the difficulties which it will face in the future, according to G. M. Magee, research engineer, Engineering division, A.A.R., who made this remark in an address on The Future of Research in the Railway Industry before the closing session of the meeting on Thursday. "It is imperative," he said, "that we organize and plan our research future so that we may take the fullest advantage of this opportunity with all possible means at our disposal."

Mr. Magee believes that the railways should embrace every possible research source from which benefits may ensue. Naming these, he first mentioned the "tremendous" amount of research activity being carried on in all industries, stating that the railroads should keep in touch with this activity and that, furthermore, they should actively encourage research by other industries because of the benefits they will derive from it. He cited the Diesel locomotive as an example of research developments by other industries working in collaboration with the railways. New designs of passenger cars and the development of centralized traffic control are other examples of research achievements of industry, he said.

The universities constitute another source of research mentioned by Mr. Magee. He would place principal dependence on universities to contribute largely to the fundamental research in our country. In addition, he feels that the railroads must depend upon universities for carrying out many investigations requiring engineering or applied research. Dependence on universities for these types of research, according to Mr. Magee, offers the advantages of utilizing existing facilities and personnel specialized in a particular field.

Still another research source open to the railroads, according to Mr. Magee, lies in cooperation with other industries in conducting research on matters of mutual interest. Such cooperation, he said, can be achieved through several organizations, such as the Engineering Foundation, the Welding Research Council, the Research Council on Riveted and Bolted Structural Joints, and the Column Research Council.

Regarding the future research activities of the railroads, Mr. Magee feels that the objective should be to determine by research investigations just what characteristics and materials are required so other industries can be advised of these requirements, permitting them to develop materials to meet the needs of the railroads. He feels that the research program of the Engineering Division is on sound ground and offers "good prospects of producing important benefits to the industry." Stating that the budget for 1949 had been increased to almost $400,000, he expressed the opinion that the future will see this annual expenditure increase to perhaps as much as $2,000,000 a year for the Engineering Division alone.

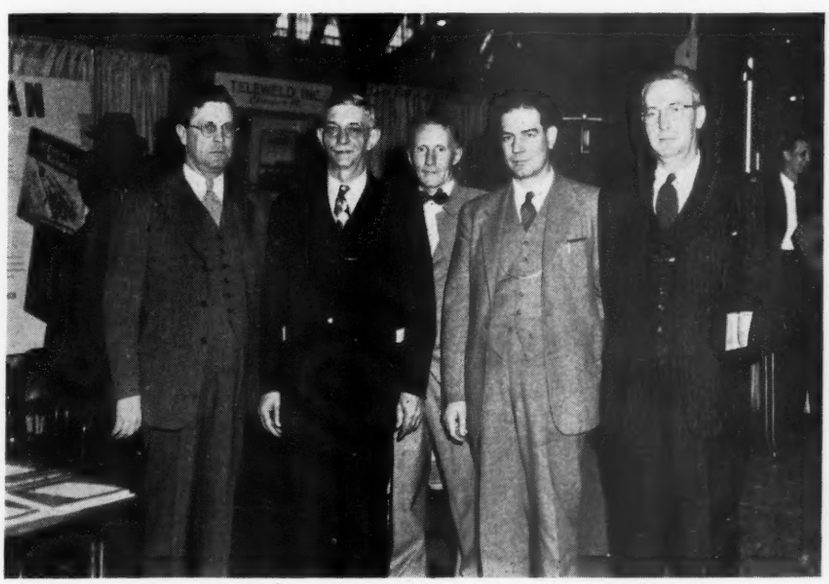
Mr. Magee said that the committees of the A.R.E.A. have an important part in the research future of the railway industry. Working in collaboration with the research staff, he said, the counsel of the committee members is "invaluable in selecting research projects, planning the programs, carrying out the work, analyzing the data, and putting the results into effective use." He urged that the committees have no hesitancy in calling upon his staff for any research assistance that may be required.

Planning Required To Assure Timber Supply

"One of the major problems before the railroads today is the future timber supply for crossties," said C. D. Turley, engineer ties and treatment of the Illinois Central, in an address on the Future of Timber Supply, presented following the report of the Committee on Ties. While the dwindling of timber resources is occurring on a nationwide basis, Mr. Turley said that conditions are most acute in the eastern half of the United States, and his remarks were confined largely to that part of the country "where the forests have been greatly depleted and where in the past so little has been done to replenish the supply."

Mr. Turley pointed out that farmers and small owners own about one-third of the total forest area but practice little or no forest management. The general trend, he said, is toward the ownership of timberlands in large units by the government and private industry, with the result that the amount and quality of the open market timber, on which the railroads must depend for their requirements, are being gradually reduced.

He then posed the question, "What



Left to right: J. W. Neikirk, manager of roadway maintenance, N. & W., Roanoke, Va.; E. H. Roth, asst. engr., N. & W., Roanoke, Va.; J. W. Burress, owner, J. W. Burress Company, Roanoke, Va.; B. E. Crumpler, asst. engr., N. & W., Bluefield, W. Va., and R. D. Simpson, maintenance engineer, N. & W., Roanoke, Va.

are the railroads going to do about it?" The answer, he said, is reforestation, and proper forest management, including necessary planting, fire protection, care of growing timber, pruning, selective cutting, and supervision of all cutting and logging operations. With the favorable climatic and soil conditions prevailing there, he said, the southern part of the country presents excellent opportunities for growing a satisfactory supply of timber for railroad crossties, bridge materials, car lumber, poles and piling. However, he said, the once extensive heavy virgin pine forests in this part of the country have been very largely replaced by second growth mixed pine-and-hardwood forests which are now largely understocked and in otherwise poor condition.

Experience has shown, he continued, that proper methods of cutting and management will enable these forests to grow large and increasing quantities of timber to meet present needs and to safeguard future requirements. He then outlined a plan for building up the total stands of timber to a point where the board feet per acre will give the maximum timber yield for the species of wood involved. Experimental tree farms have shown, he said, that timber can and should be as much an annual farm crop as corn, potatoes, or cotton. Mr. Turley's opinion is that, unless some unforeseen development takes place that will ease the drain on the timber resources, the railroads, if they are to secure a satisfactory supply of crossties at prices they can afford to pay, may find it necessary to acquire land and grow their own timber.

Partners in Research

The partnership that has been formed between industry and education in recent years, with industrial research as the objective, and some of the problems resulting from that partnership, were the principal subjects discussed by Dr. Henry T. Heald, president of Illinois Institute of Technology, in an address at the opening session. Taking note of the great increase in research in recent years, and pointing out how the character of research has changed from the individual to the group effort, Doctor Heald observed that research has become a highly organized business requiring an adequate supply of competent personnel, extensive facilities and equipment and large appropriations of money — "all brought together in a pattern of operation insuring maximum effectiveness of individual investigators."

Declaring that educational institutions have played an important part in the development of American research from the beginning, Doctor Heald said that much of the fundamental scientific and engineering knowledge has stemmed from discoveries made by faculty members and graduate students in college and university laboratories. "It is this fundamental work," he said, "that provides the background for applied research, resulting, in time, in greater technological progress in American industry." The ideal situation, he said, is where faculty members can conduct research with complete freedom to direct their work along the lines of their own interests "without compulsion to produce commercially useful results," and continuation of this kind of search for new knowledge "is of vital importance to the future of science."

Left — C. H. Anderson, manager railroad sales, Armco Drainage & Metal Products Co., Cleveland, Ohio; right — Blair Blowers, ch. engr. m. of w., Erie, Cleveland, Ohio

When properly administered, industry-sponsored research furnishes valuable assistance in vitalizing teaching and in training research personnel, declared Doctor Heald. However, he said, unless proper procedures are developed for handling sponsored research in the institutions, faculty members are prone to divert their attention to strictly commercial research, resulting in less fundamental research and less effective teaching. To avoid this and other dangers, said Doctor Heald, six well-defined relationships have been developed between industry and colleges in the conduct of industry-sponsored research.

Briefly stated, these relationships are: (1) Individual relationships between faculty members and sponsoring companies; (2) engineering experiment stations, largely financed by public funds to work on problems of broad interest; (3) departments of engineering research in colleges; (4) research foundations in a variety of forms, organized by colleges to provide a mechanism for serving industry through sponsored research; (5) affiliated research institutes designed to serve the research needs of a particular industry and to encourage the training of research personnel; and (6) the establishment of affiliated industrial research laboratories at educational institutions, such as the planned research laboratory of the Association of American Railroads on the campus of Illinois Tech.

After discussing the patterns of research employed at his own institution, Doctor Heald pointed to the increasing role of the federal government as an agency for sponsoring research. He said that there is a shortage of qualified research workers and a slowing down of the development of basic new knowledge in all fields of science. "The growth and maintenance of American industry and the security of the nation are imperiled by these shortages," he declared. Asking that industry extend its practice of supporting graduate fellowships or of making modest research grants for fundamental work in specific fields, he added that it is "better for industry to assume a greater share of the responsibility for research and education than to wait for government to move out of its rightful sphere and move into an area which industry, for its own protection, should reserve to itself."

Roadbed Stabilization

Supplementing the report of the Committee on Roadway and Ballast, Rockwell Smith, roadway engineer, A.A.R., addressed the association on Roadbed Stabilization, illustrating his remarks with a series of lantern slides showing a range of roadbed failures and various soil types and conditions of instability. Broadly, he classified unstable roadbeds into two categories: (1) a pocketed condition of the ballast, containing water, at least during some seasons of the year, and usually evidenced by squeezes or push-ups beyond the ends of the ties: and (2) slides and slips, which were defined as being movement of the soils in slopes of the roadbed, of the roadbed itself, or of its foundation from its original position.

After commenting on both of these types of roadbed instability, Mr. Smith discussed at some length the detrimental expensive properties of some clays and the problems resulting when they are used in roadbed construction. All computations on the stability of soils are based on the assumption of uniform characteristics, he pointed out, but, he said, this condition does not exist. The principal problem now, he said, is to determine the changes that ensue in different soils during years of service. It is the plan of his department to explore certain "known" railroad fills during the year to determine what changes may have taken place within them since construction.

On evaluating subgrade weaknesses as to the possibility of more serious failures and priority of correction, Mr. Smith said that the first basis for selection, obviously, is known points of high maintenance costs. Other points calling for correction, he said, require careful inspection and an attempt at analysis of present and incipient failure, based on past experience and whatever knowledge of soils and type of construction that can be obtained from the record.

After brief reference to several specific methods of stabilizing roadbed, including grouting, sand piles and sand-filled blast holes, piling, and vertical ties, Mr. Smith said in conclusion:

"It should be recognized that it is only slightly over 20 years since soil was considered anything but plain old dirt. In those 20 years great strides have been made in understanding the action of soils as a structural material—which is especially true if one considers the time and study devoted to understanding the mechanics of wood and steel materials, with their much more definite structural properties. There is much yet to be learned about soils, but the A.R.E.A.-sponsored investigation will continue to develop information of value to the industry. I know of no other maintenance expenditure that will give a greater return on the dollar than that for roadbed stabilization."

Future Railway Bridges

Summing up an address on the Future of Structural Engineering in Relation to Railroad Bridges, Shortridge Hardesty, consulting engineer, New York, said that, in spite of the many advances made in the theory and study of bridge design, "there are still gaps in our engineering knowledge. These gaps are being recognized, and investigation and research are under way or projected to supply the needed information."

In arriving at this conclusion, Mr. Hardesty traced, chronologically, the advances of the past from their beginning in 1829. He said that by 1830 some data on beams and columns became available, and that the first great advance in design knowledge came in 1847, when Squire Whipple published his "Work on Bridge Building."

With this book available, many truss forms were developed, together with plate-girder bridges and railroad trestles. In 1850 the bridges were constructed of timber, cast-iron and wrought-iron, but by 1870 practically all were made of wrought iron which was superseded by steel during the period from 1880 to 1895.

By the time the Committee on Iron and Steel Structures of the A.R.E.A. began its task of developing specifications for steel bridges many railroads faced overstressed bridges because of continuing increases in locomotive weights. The committee realized early in its history, Mr. Hardesty said, "that many of the divergencies in practice resulted from gaps in our engineering knowledge." It therefore sponsored studies, investigations and tests covering a wide range of topics. However, there are still many important problems facing the railway bridge engineer. The future of railway bridges is largely concerned with the solution of such problems, Mr. Hardesty declared.

Although railway loadings increased steadily for the first 100 years of American railroad history, Mr. Hardesty said, this tendency has changed recently by virtue of the shift, in many cases, to Diesel power. He expects, however, that Diesels, may get heavier as power is increased per unit.

One of the more glamorous bridge problems of the future concerns the investigation of the possibilities of the use of special materials such as silicon steels, low-alloy and corrosion-resistant steels and structural aluminum for bridge fabrication, according to Mr. Hardesty. He also said that welded construction, now proving itself in many forms of construction, is one of the important questions of the future that will have to be studied and answered. He also mentioned briefly the greater use of piper and steel H-piles, the need for study on rational column design, and research now in progress on riveted and bolted joints and on rocker-shoe asemblies. He said he also considered of major importance the problem of protecting metalwork against corrosion. Of this, he said, "stainless alloys appear particularly promising for expansion-bearing details."

Finally, Mr. Hardesty mentioned as noteworthy the important tendency in current bridge design to pay greater attention to appearance. Early bridges, being mainly utilitarian, were frequently ugly. Present designers have found, he said, that by proper planning better appearance is possible with only a small increase in cost.

A. R. E. A. COMMITTEE REPORTS

Committee on Ties

C. D. Turley, Chairman*

Three progress reports were submitted by this committee, the first of which deals with the extent of adherence to specifications. This report was based on several field inspections during the year of crossties stored for seasoning at wood-preserving plants. The second report gives the latest figures on tie renewals and costs per mile of maintained track, while the third report, quite brief, is on the investigation, now being made in collaboration with the National Lumber Manufacturers Association, on methods for reducing mechanical wear of track ties.

A report on adherence to specifications indicates that strict vigilance on the part of inspectors is necessary to insure that the railroads receive ties that will give satisfactory performance for a long period of service.

**Engineer of Ties and Treatment, Illinois Control*

Wood Preservation

C. S. Burt, Chairman*

Nine progress reports and one final report were presented by this committee. Seven of the progress reports, all presented as information, deal with service tests of treated woods; methods of preventing destruction by marine borers; preventing destruction by termites; incising forest products; the results of using coal tar for treating ties; the treatment of wood to make it fire resistant; and the artificial seasoning of forest products prior to treatment. The other two progress reports —on creosote-petroleum solutions and on new impregnants for increasing the life and serviceability of forest products —contain material for adoption and inclusion in the Manual. *This material was accepted.*

The final report, submitted as information, deals with the preservative survey conducted by the committee. An important trend indicated by the survey is that straight coal tar is being eliminated for treating crossties and switch timber. An appendix to the report describes the vapor-drying process.

**Assistant to the Director of Purchases and Stores, Illinois Central*

Location—Operation

C. H. Blackman, Chairman*

Under Revision of Manual, the committee recommends that the section dealing with the methods of determining the proper allowance for maintenance-of-way expense due to increased use and increased investment (popularly known as the Yager formula) be withdrawn from use pending necessary revision, to avoid having misleading material in the Manual. The committee also submitted two progress reports.

**Chief Engineer, Louisville & Nashville*

Under its assignment to investigate electrification and the development of modern power units, the committee offered a monograph on the gas-turbine locomotive, embracing a discussion of various estimates of fuel supplies. Under economics of operation of union railway passenger terminals, a progress report describes the proposed terminal at New Orleans, La., and discusses the method of financing the project and the proposed method of allocating the cost of operating and maintaining the terminal.

The recommendation of the committee was approved.

Roadway and Ballast

H. W. Legro, Chairman*

This committee submitted six progress reports as information. The subjects include: physical properties of earth materials; roadbed stabilization; construction and protection of roadbed across reservoir areas; chemical eradication of vegetation; tests of ballast; and special types of ballast.

The report on physical properties of earth materials is concerned primarily with material in the subgrade and describes field tests of subgrade materials on the Chicago, Burlington & Quincy to determine pressures in these materials under traffic. The report on roadbed stabilization includes information on the savings in labor resulting from pressure-grouting unstable roadbed on a number of roads and describes several specific projects where stabilization measures were necessary, giving the results obtained from these measures. The report also describes the laboratory investigation, begun recently, to study the factors that cause the development of soft spots in roadbeds.

The report on special types of ballast describes a test on the Illinois Central in which a 2,485-ft. tangent track was covered with a layer of asphalt three to four inches thick, and discusses the results after five years of service under heavy traffic. These results include improved drainage, cleaner ballast, protection of ties against weathering and sharply reduced annual maintenance cost.

**Engineer of Grade Crossings, Boston & Maine*

Report on Track

R. B. Caruthers, Chairman*

Reapproval of the Manual material on the welding of manganese castings in special trackwork was recommended by this committee in reporting on its first assignment. Other minor changes in the Manual were recommended in connection with progress reports on track tools and on the design of tie plates. The committee also submitted new plans for solid manganese-steel, self-guarded frogs and for steel fillers and reinforcing bars to be included in the Portfolio of Trackwork Plans, and also proposed the revision of 17 plans of split switches in the Portfolio to show a different tie spacing. The subcommittee on trackwork plans also presented, as information, a final report on the service tests of designs of solid manganese-steel crossing frogs; a progress report on structural steel and timber supports for such crossings; a report on tests of bolt tension in crossing frogs, and a report on laboratory fatigue tests of manganese steel. Other progress reports deal with fastenings for continuous welded rail; hold-down fastenings for tie plates, including elastic pads under the plates to determine their effect on tie wear; the effect of lubrication in preventing frozen rail joints; rail anchorage for various conditions; and a critical review of the subject of speed on curves as affected by present-day equipment.

The report on hold-down fastenings for tie plates describes the extensive tests being conducted on the Louisville & Nashville and the Illinois Central, the purpose of which is to determine the most effective measures for reducing mechanical wear of ties. The fastenings being tested include spikes of various types, adhesives and spring rail clips. Fabric pads of several types and waterproofing agents are also included in these tests. The report on joint-bar lubrication describes tests on the Chicago, Burlington & Quincy, now under way for three years, to compare the various materials intended to prevent frozen joints.

The committee's recommendations regarding Manual Material were approved.

**Assistant Engineer, Pennsylvania*

Report on Rail

C. B. Bronson, Chairman*

Nine progress reports and one final report, all offered as information, were presented by this committee. In the first of the progress reports, the committee recommended reapproval of the section of the Manual outlining the general requirements of a rail joint, while the second report, dealing with conditions affecting the service life of rail, gives the results of an investigation of rail failures in the laboratory. The remaining progress reports cover the following: rail failure statistics; economic value of different sizes of rail; continuous welded rail; service tests of various types of joint bars; joint-bar wear and failures, and revisions in the design and specification for joint bars; the cause and prevention of shelly spots and head checks in rail; and recent developments affecting rail section. The one final report deals with the causes and remedy of corrugated rail. This report states that scant tangible results have materialized after 11 years of work on the subject. For this reason, and because it is uncertain that means of preventing corrugation will be determined, because riding quality usually is not affected, because excessive corrugation may be removed by grinding, and because only one road has displayed more than passing interest in the subject, the committee feels that further study is not warranted.

The committee's recommendation was adopted.

**Maintenance of Ways Assistant to Vice-President, New York Central System*

Committee on Impact

A. B. Chapman, Chairman*

This committee presented progress reports on nine of its ten assignments. All of these reports are brief, and, in general, consist of statements to the effect that tests being made in connection with the various assignments are under way and will be continued.

**Assistant Chief Engineer, Lines East, Chicago, Milwaukee, St. Paul & Pacific*

Yards and Terminals

G. F. Hand, Chairman*

This committee presented reports on nine assignments, including five final reports offered as information. Under Revision of Manual, the committee offered suggested changes regarding l.c.l. freight facilities. In connection with its assignment to investigate scales used in railway service, it recommended revisions or readoption of the portion of the Manual dealing with this subject that have not been revised in the last ten years. One progress report embraces the annual bibliography on subjects pertaining to yards and terminals, while another concerns terminal facilities for electric locomotives. The five final reports deal with facilities for expediting freight traffic through yards and terminals; rolling resistances of freight and passenger cars equipped with roller bearings; advantages and disadvantages of low and car-floor level passenger platforms; recent developments in under-car inspection of passenger cars; and length of freight cars as the basis for determining the capacity of yard and terminal tracks. *The committee's recommendations were approved.*

The report on facilities for expediting freight traffic through yards and terminals makes four suggestions which the committee felt would be of value at many terminals. These are: (1) the revamping of yard facilities to consolidate operations and thus avoid extra moves and retrograde movements; (2)

Left to right — J. W. Cummings, supvr. work equipment, D. & H., Albany, N. Y.; J. C. Brennan, engr. track, D. & H., Albany, N. Y.; and O. W. Stephens, asst. engr. structures, D. & H., Albany, N. Y.

the adoption of improved communications; (3) the use of mobile or fixed facilities for servicing locomotives at various locations in yards and terminals; and (4) the use of switch tenders or power machines to operate mainline and other switches at the entrance and departure ends of yards.

**Retired Assistant to Chief Engineer, New York, New Haven & Hartford*

Iron and Steel Structures

E. S. Birkenwald, Chairman*

Under Revision of Manual this committee recommended revisions of the specifications for steel railway bridges and of certain other parts of Chapter 15. Progress reports were made on three of the seven remaining assignments. These deal with stress distribution in bridge floorbeam hangers; the design of steel bridge details; and the design of metal culverts of 60-in. diameter and larger, including corrugated metal arches.

All of the recommendations of the committee were approved.

**Engineer of Bridges, Southern*

Water Service

H. E. Silcox, Chairman*

This committee proposed extensive changes in the Manual, affecting present specifications for welded steel tanks for water service, and salt used for the regeneration of zeolite water softening plants. It also presented five progress reports and two final reports as information. *The changes recommended by the committee were approved.*

The progress reports cover intercrystalline and other types of corrosion of steam boilers; federal and state regulations pertaining to railway sanitation; sanitation practices for construction and operation of camp outfits; new developments in water conditioning for use in Diesel locomotive cooling systems and steam generators; and stream pollution from sludge and waste on railway property. One of the final reports deals with the effect of water hammer on pipe lines and methods for its control, while the other is concerned with the cause and prevention of after-precipitation from treated water.

The report on sanitation practices in camp outfits points out that few roads have a clearly-defined sanitary program for labor camps. This report consists largely of recommended sanitation practices for the design and equipment of camp cars and for the maintenance and operation of such camps.

**Assistant Engineer Water Supply, Chesapeake & Ohio*

Cooperation With Universities

S. R. Hursh, Chairman*

Three progress reports, all presented as information, were offered by this committee. Under its assignment to stimulate greater appreciation on the part of railway managements of the importance of bringing selected college graduates into railway service and, also, of the need for providing adequate means of recruiting such graduates and for retaining them in the service, the committee submitted a brief progress report based on replies to questionnaires sent to a number of colleges and railroads. An important fact brought out by this survey is that 30 per cent of the engineering graduates employed by the railroads in 1947 already have left the service. The second progress report lists the railway men who have addressed student groups in the past year to promote greater interest among students in the science of transportation. The last of the reports deals with the cooperative system of education, including summer employment, in railway service. This report indicates that the cooperative schools have a genuine interest in developing better relations with the railways and that the cooperative plan has proved of mutual benefit to the schools and the railroads that have participated.

**Assistant Chief Engineer — Maintenance, Pennsylvania.*

Report on Buildings

A. G. Dorland, Chairman*

Reports were presented by this committee on three of its ten assignments. Under Revision of Manual it offered extensive revisions in the specifications for buildings for railway purposes, which were recommended for adoption. Under its assignment to develop specifications for railway buildings the committee submitted specifications for hollow concrete masonry units, which were offered as information. A final report, also presented as information, was submitted on fire retardant coatings. This report describes the classifications of these coatings and the tests made to determine their effectiveness.

The revisions recommended by the committee were approved.

**Assistant Engineer, Elgin, Joliet & Eastern*

Committee on Masonry

F. R. Smith, Chairman*

This committee submitted six reports on five of its eight assignments. With reference to its assignment to develop principles of design of masonry structures, the committee recommended the adoption of specifications for various types of cribbing that were submitted last year, and also submitted specifications for the design of plain and reinforced concrete members, which were recommended for adoption. The latter specifications had been submitted as tentative in 1947. Also, specifications, previously submitted and published, for lining railway tunnels with timber were recommended for adoption, as were specifications for various types of pile foundations. Reports were submitted as information on repairing and solidifying masonry structures, and on methods for improving the quality of concrete and mortars, the latter containing, in

**Chief Engineer, Union Railroad*

tabular form, a procedure for proportioning concrete mixes for field use.

All of the recommendations of the committee were approved.

Waterproofing

G. E. Robinson, Chairman*

This committee submitted a progress report on water-proofing protection to prevent concrete deterioration. The report deals briefly with a test conducted by the committee and describes laboratory and field tests that are soon to be made, which will include all of the available surface coatings offered by suppliers for use in above-grade waterproofing of concrete.

**Engineer of Structures, New York Central, Lines West of Buffalo*

Committee on Wood Bridges

C. V. Lund, Chairman*

This committee recommended the deletion of the material in the Manual dealing with the relative economy of repairs and renewals of wood bridges and trestles, and offered minor revisions in certain other material. A progress report deals with grading rules and the classification of lumber for railway uses. A report of a special subcommittee on the design of wood bridges and trestles, giving preliminary results of stress measurements in timber structures, was presented as information.

All of the recommendations of the committee were approved.

**Assistant Engineer, Chicago, Milwaukee, St. Paul & Pacific*

Economics of Labor

J. S. McBride, Chairman*

Under Revision of Manual, this committee recommended extensive changes in the material in the Manual on the programming of bridge and building work. Progress reports were presented on the assignments to analyze operations of railways that have substantially reduced the cost of labor required in maintenance-of-way work, and on the investigation of the organized training of supervisors. One final report, presented as information, deals with track maintenance in C.T.C. territory.

The report dealing with the analysis of operations of railways that have substantially reduced the costs of labor required in maintenance work is devoted to a study of a system employed on the Delaware, Lackawanna & Western, in which traffic is detoured around major maintenance operations. The report indicates that, as compared with the more conventional method of doing the same work—involving smaller gangs, slow orders and frequent interruptions of the work by traffic—the "detour" method affords an indicated saving of as much as 53 per cent.

All of the recommendations of the committee were approved.

**Chief Engineer Consultant, Chicago & Eastern Illinois*

Report on Highways

W. J. Hedley, Chairman*

Under Revision of Manual, this committee recommended completely new material regarding the requisites for highway grade-crossing signals and for automatic crossing gates. Under its assignment to investigate the design and specifications for highway-railway grade crossings, the committee submitted, for adoption and inclusion in the Manual, revised specifications for prefabricated treated-timber crossings, pre-cast concrete slab crossings, and monolithic concrete crossings. It also presented two drawings for adoption, showing typical location plans for automatic highway crossing signals. A progress report was made on the assignment to classify highway-railway crossings with respect to public safety.

**Assistant Chief Engineer, Wabash*

Records and Accounts

F. B. Baldwin, Chairman*

Six progress reports were offered by this committee, the first of which embraces an extensive bibliography of subjects pertaining to records and accounts. Other reports deal with modern drafting aids; the use of statistics in railway engineering; the relation of construction reports and property records to current problems; current developments in connection with regulatory bodies and courts; and revisions and interpretations of Interstate Commerce Commission accounting classifications. The report on the use of statistics points out that all roads—large or small—can use properly developed statistical information widely and effectively in promoting economy and in controlling costs.

**Valuation Engineer, System, Atchison, Topeka & Santa Fe*

Work Equipment

Edgar Bennett, Chairman*

Reports made by this committee covered eight of its ten assignments, all of which were final reports presented as information. These reports deal with power conveyors; power ballasting machines; equipment for oiling rail and track fixtures in track; power cribbing machines; portable power units and tools for roadway terminal gangs; Diesel engines; portable power units and tools for bridge and building gangs; and new developments in maintenance-of-way equipment. The reports on specific types of machines include descriptions of one or more machines in each class and their operating characteristics. Those covering power tools for terminal and for bridge and building gangs include discussions of the problems confronting these gangs and how they can be solved by the use of power tools and machines.

**Chief Engineer Maintenance of Way and Structures, Eastern Lines, Southern*

Uniform General Contract Forms

W. R. Swatash, Chairman*

This committee recommended the readoption of certain Manual material, but suggested minor changes in the form of agreement for joint use of freight terminal facilities and in the form of agreement for crossings of railways at grade. A final report, comprising a form of agreement to permit subsurface exploration by state or other government agencies on railway rights-of-way, was presented for adoption and publication in the Manual. Progress reports were made on two other assignments, one including a proposed form of agreement for the maintenance and operation of flood-protection works, and the other a proposed form of agreement for railroad force-account work on flood-control projects.

All of the recommendations of the committee were approved.

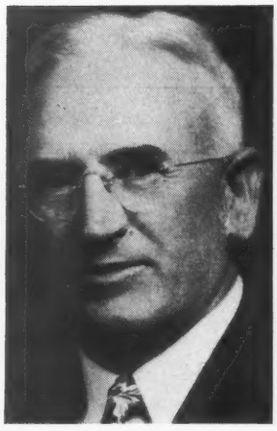
**Assistant Engineer, Erie*

MOBILE THEATER — Educational sound movies on safety are being brought direct to employees of the Seaboard Air Line by a "mobile theater." Devised by R. D. Cates, Seaboard safety supervisor, the unit will be used over the entire S.A.L. System.

Max K. Ruppert
President

H. M. McFarlane
President-Elect

R. B. Fisher
Secretary



Lewis Thomas
Assistant Secretary

N.R.A.A. EXHIBIT WIDELY ACCLAIMED

This year's display at the Chicago Coliseum of latest developments in equipment and materials, including products of 119 companies, was one of the largest ever held

Coincident with the fiftieth anniversary convention of the American Railway Engineering Association in Chicago during the week of March 14, and with special features and decorations appropriate to the event, the National Railway Appliances Association presented a highly interesting display of new and improved machines, tools, devices and materials adapted for railway maintenance and construction work. This exhibit, the thirty-fourth to be presented by the N.R.A.A. in connection with A.R.E.A. conventions, was held in the Coliseum on March 14-17. With 119 member companies participating, displaying their products in 243 booths of the exhibit hall, and with nearly 1,200 manufacturers' officers, engineers, sales representatives and service men in attendance, the exhibit this year was one of the largest and most comprehensive ever held by the association. For the first time the Track Supply Association and the Bridge and Building Supply Men's Association, allied respectively with the Roadmasters' Association and the American Railway Bridge and Building Association, displayed their banners.

One of the factors contributing to the size and scope of the display was the desire of the manufacturers to show that their efforts—in developing products designed to make railway construction and maintenance work easier, safer and cheaper — have contributed materially to the fifty years of progress in the field of railway engineering and maintenance celebrated this year by the A.R.E.A. Another factor is the realization by the manufacturers of the important part equipment will play in future railway construction and maintenance work because of still-rising labor costs. That railway men also have this latter factor in mind was evidenced by the large crowds that attended the display on all four days, and the keen interest exhibited by all in the economies that can be effected by the use of the devices displayed.

The officers who had the responsibilities of arranging and supervising the exhibit this year were: Max K. Ruppert (P. & M. Co., Chicago), president of the N.R.A.A.; H. M. McFarlane (O. F. Jordan Company, East Chicago, Ind.), vice-president; R. B. Fisher (Buda Company, Harvey, Ill.), secretary; Lewis Thomas (Q & C Co., Chicago), assistant secretary and director of exhibits; Jess Mossgrove (Austin-Western Company, Aurora, Ill.), treasurer; honorary directors—J. S. Hutchins (Ramapo Ajax Division, American Brake Shoe Company, Chicago); C. L. Mellor (Barco Manufacturing Company, Chicago); directors—E. D. Cowlin (Eaton Manufacturing Company, Reliance Division, Massillon, Ohio); W. H. Tudor (International Harvester Company, Industrial Power Division, Chicago); R. A. Carr (Dearborn Chemical Company, Chicago); J. B. Templeton, (Templeton, Kenly & Co., Chicago); and E. W. Backes (Carnegie-Illinois Steel Corporation, Chicago).

The association held its annual business meeting at the Coliseum on Tuesday afternoon, March 15. In the election of officers, Mr. McFarlane was elected president, Mr. Mossgrove was elected vice-president, and Mr. Tudor was elected treasurer. Mr. Fisher was re-elected secretary.

W. B. Blix (Nordberg Manufacturing Company), Milwaukee, Wis., and J. P. Kleinkort (Ramapo Ajax division, American Brake Shoe Company), Chicago, were elected directors to serve for a term of three years. K. K. Cavins (Fairmont Railway Motors, Inc.), Chicago, was elected a director for a term of two years, and Eugene Harbeck (National Lock Washer Company), Chicago, was elected a director for a term of one year.

"SOUTHERN BELLES" ARE RE-EQUIPPED

Below—One of the two dining cars built for the new "Southern Belles"

Below—One of the 60-passenger coaches

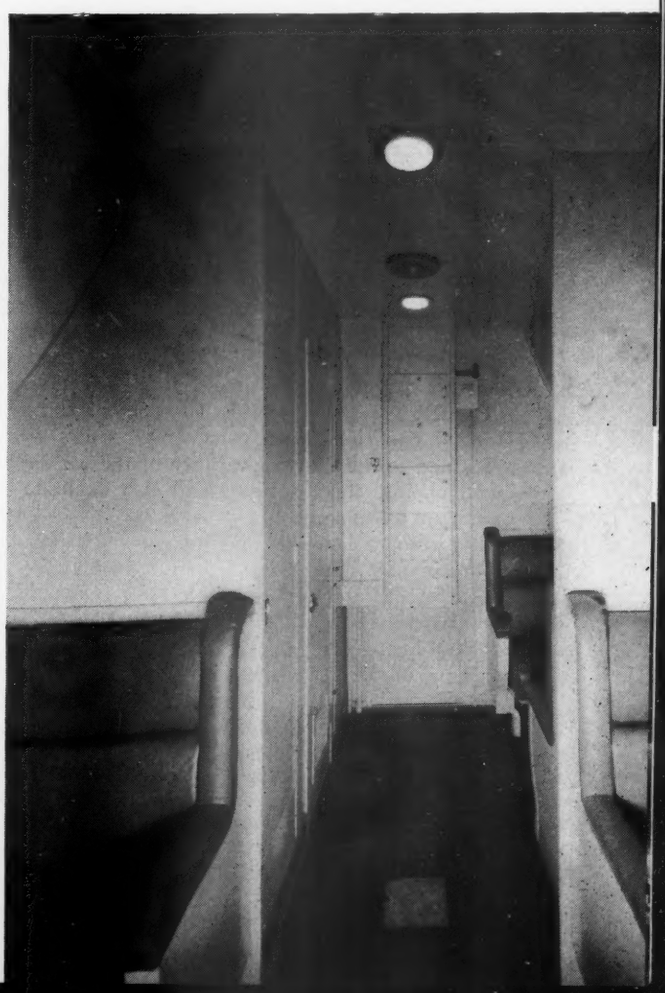
Two trains, with 12 cars from American Car & Foundry Co. and eight sleepers from Pullman-Standard, will enter regular service on the K.C.S. on April 3

To be placed in service on April 3 by the Kansas City Southern are 18 new and two rebuilt passenger-train cars which will completely re-equip that road's "Southern Belle" trains operating between Kansas City, Mo., and New Orleans, La. Built by the American Car & Foundry Co. are two diners, six coaches, and two mail-baggage-dormitory cars. Furnished by the Pullman-Standard Car Manufacturing Company are eight four-bedroom, 14-roomette sleeping cars. With the exception of the mail-baggage-dormitory cars, the equipment has low-alloy high-tensile steel underframes and aluminum superstructures. The mail-baggage-dormitory cars are of low-alloy high-tensile-steel construction throughout. Two observation-parlor-dining cars were rebuilt by the American Car & Foundry Co. into tavern-observation-lounge cars which conform in every way to the new cars and are for use in the same service.

New schedules will be inaugurated when the newly equipped trains go into service. These will reduce the present running time between the two terminals by 3 hrs. 45 min. and provide connections at Shreveport, La., for Port Arthur, Tex.; Beaumont, and Lake Charles, La. Plans call for the new "Southern Belle" to leave Kansas City at 4 p.m. and to arrive at New Orleans at 10 o'clock the next morning, with an identical schedule on the northbound trip. The southbound train, including a through Kansas City-Port Arthur sleeper, will leave Shreveport at 3:30 a.m. and arrive at Port Arthur at 9 a.m., an elapsed time of 17 hrs. Northbound, the train will leave Port Arthur at 4:20 p.m. and arrive at Shreveport at 10:20 p.m. for the connection with the New Orleans-Kansas City train.

One of the new "Southern Belle" trains was presented to the public at Kansas City on March 7 and

Left — A transverse bedroom in daytime. The wardrobe is at the end of the sofa, the enclosed toilet at the right. Right — Open dormitory sections in the baggage-mail-dormitory car



The dining room of the "Southern Belle" diners is divided by partitions and portieres into three table groups, each seating 12 passengers

has visited major points on the road between that point and New Orleans, and between Shreveport and Port Arthur.

Dark green is the predominant exterior color of the trains, set off by contrasting red and yellow striping. The roof is aluminum and the lettering, gold. The cars meet all the specifications of the Association of American Railroads and the U. S. Railway Mail Service and have A.A.R. standard roof contours.

Dining Cars

The two diners, each with a capacity for 36 passengers, are designed in a manner which breaks up the inherently long and narrow look of this type car.

This is done by placing tables both in the conventional manner and diagonally against serpentine settees, with the diagonal tables for two opposite the conventional tables for four and the conventional tables for two opposite the diagonal tables for four. Winged partitions with ornamental grilles and portieres add to the cozy appearance of the car by breaking it up into three sections and also facilitate segregation of passengers.

The color scheme of the interior of these cars is predominantly blue, enhanced by a henna-rust carpet by Beck & Blatchford. Red gumwood Formica with decorative stars is the finish on the pier panels and the blue in the car varies from a light ceiling to dark chair upholstery. In line with the aisle and over the buffet is a decorative mirror. The bulkhead decorations for the diners and coaches are edge-lighted etched Plexiglas, backed by a mirror and faced with ¼-in. safety glass. The Plexiglas provides decoration, while the mirror gives an appearance of length to the car.

The foyers between the dining rooms and the pantries are complete with steward's lockers and refrigerators, soiled-linen receptacles and glassware cupboard. The kitchens were equipped by Owen Webber, Inc., and include Stearnes propane-gas dining-car ranges, steam cookers and steam tables. Stainless steel is used throughout for ease in cleaning and for general appearance. The equipment represents an increasing use of electricity in diners, even to Surgex dishwashers. Doors to the kitchens are conveniently arranged so that supplies can be loaded directly into them from either side of the car.

The dining cars are named "Old Plantation" and "Mountain Lodge," names which reflect the general characteristics of areas along the railroad. The Plexiglas etchings are of scenes suggested by these names.

Coaches

Four of the coaches have seating capacity for 60 passengers each, while the other two are divided cars with room for 40 in one section and 22 in the other. They are named for the principal cities en route.

The cars are all of single-vestibule design with large lounges for men and women in the regular coaches. Twenty-six "Sleepy Hollow" double seats revolve and recline. The bulkhead seats are of the same design, except that they do not revolve. They are upholstered in Goodall light-blue superneedlepoint to harmonize with the blue pier panels. A pleasing contrast is obtained, however, by the light yellow ceiling and stainless-steel heater duct. The frieze

panels, bulkheads and passageway walls are medium yellow, while a yellow design in the linoleum sets off the blue background. The lounges feature yellow ceilings and blue walls.

The Safety Car Heating & Lighting Co. solid luggage racks have built-in individual seat lights, each controlled by its own switch. General illumination is from Luminator lens-type fixtures in the ceiling over the aisle.

The divided coaches are similar in every respect to the regular coaches. Color schemes are identical, while accommodations allow for two more passengers. There are separate toilet facilities for each car division.

Sleeping Accommodations

Each of the new "Southern Belle" sleepers has two crosswise bedrooms, two lengthwise bedrooms and 14 roomettes—accommodations for 22 passengers. These eight cars bear the names of deceased presidents of the railroad.

Bedrooms, divided by a sliding partition, may be had singly or en suite. In one bedroom, which has a full-length sofa, the beds are transverse, while in the adjoining room, which has a contoured seat and folding chair, beds are lengthwise. Both type rooms have full-size lower and upper beds.

Each room has enclosed toilet and wash-basin facilities; is air conditioned; has separate heat controls; and is built to accommodate a service table for games or writing. Lights are placed for both general and individual illumination, including mirror lights.

Circulating cooled water is available on tap in bedrooms and roomettes. Cooling is effected by a mechanical refrigeration unit and a Lundy heat exchanger. Other conveniences include a wardrobe locker, full-length mirror, electric razor outlets, ample luggage space, folding armrests and shoe lockers.

Two bedrooms may be combined by folding the partition back. This type of bedroom is a favorite with families and with businessmen who desire a conference room for several people. A connecting door is built into the sliding partition, which allows the occupants to enjoy either company or complete privacy.

There are lights in the roomettes for general illumination and others for individual reading. A full-length mirror is located on the inside of the entrance door, and there is a wardrobe locker for clothes. Fully air conditioned, each roomette has separate thermostatic heat controls which enable the passenger to regulate the temperature to individual preference. At one end of the room is a large luggage rack, with additional space for luggage beneath the seat.

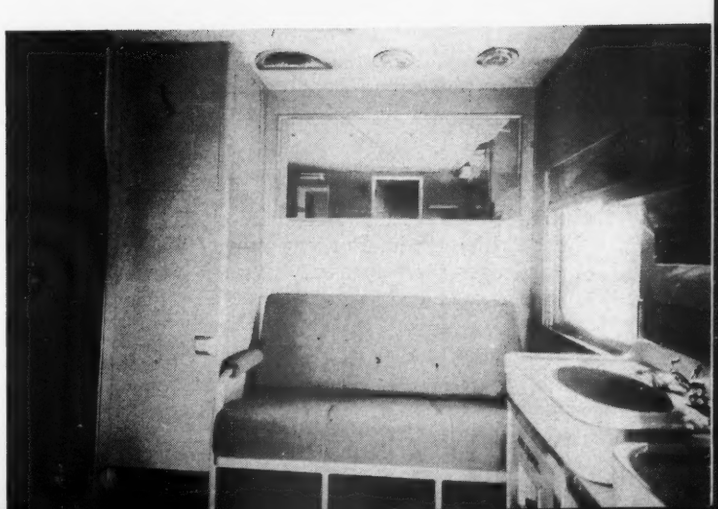
Color schemes in the sleeping-car interiors vary, with four of the eight having light green ceilings and medium green walls for the roomettes, and light blue ceilings and medium blue walls in the bedrooms and annexes. In the remaining four cars the color scheme is reversed, with the roomettes featuring blue and the bedrooms green.

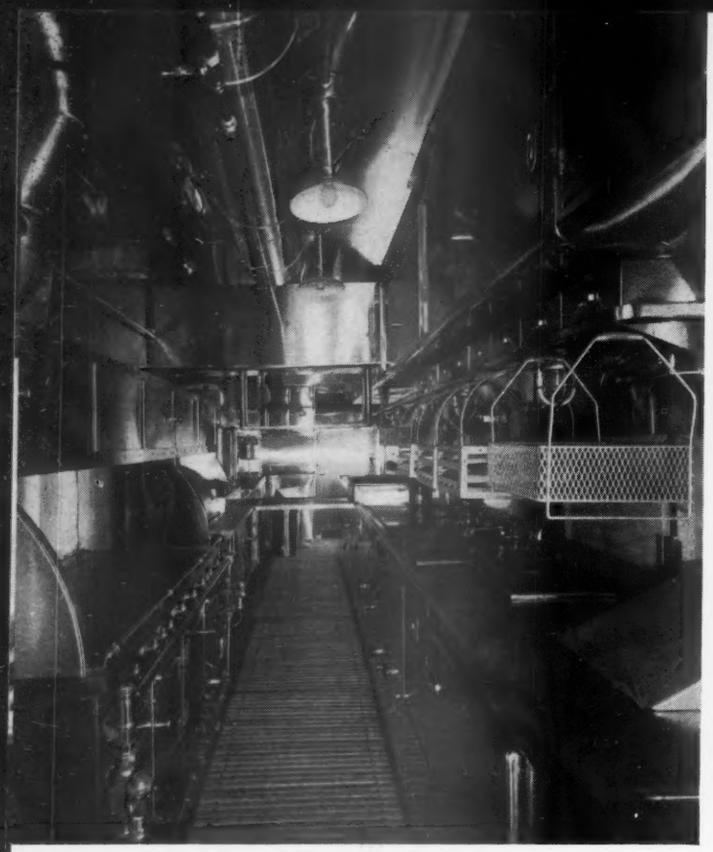
The two 85-ft. mail-baggage-dormitory cars combine a 35-ft. 6-in. baggage section and a 30-ft. 1-in.

Top — The partition in the divided coach

Center — A conductor's desk and chair replace one seat at one end of the divided coach. From this station is operated the public address system

Below — The men's lounge in the 60-passenger coach





In the kitchen looking toward the pantry

mail compartment with a 13-ft. dormitory containing three sections, each with a lower and an upper berth. The space which would otherwise be taken by a fourth section is given to shower, combolet, dental bowl, and clothes locker.

The mail compartment is completely equipped to Railway Mail Service standards. There is a wardrobe for post office personnel, complete toilet facilities, and a Lundy Utility unit, which consists of an electric refrigerator, a water cooler and a steam cooker in one cabinet, 17½ in. by 19½ in., 48¼ in. high. The baggage section has fish racks, a desk and letter case and water cooler.

Construction

The passenger-carrying cars are of riveted and welded design, with low-alloy high-tensile-steel underframes. Aluminum superstructures prevail in the passenger cars, but the mail-baggage-dormitory cars are low-alloy high-tensile steel throughout, with the exception of open-hearth steel vertical end members. The general dimensions of all cars are the same—85 ft. coupled length and 59-ft. 6 in. between truck centers. Carlines are shaped so the roof forms the standard A.A.R. streamline arch.

In the kitchen and pantry 16-gage stainless-steel floor is laid over lightweight Tucolith on top of ¾-in. Keystone. Drain troughs feed into drains equipped with anti-freeze protection, while wood floor racks cover the entire floor. The dining sections also have ¾-in. Keystone bases and tack-welded wire mesh reinforces the 1¼-in. Portland cement which is applied in and over the Keystone. Ceramic tile is imbedded in the cement and is used throughout the car except for the kitchen and pantry. Carpet is laid over the tile in the dining room.

Coaches also have Keystone flooring, but the top openings are coated with Tuco preservative, then filled with Tuco Beach Grove mix. Enamelite ⅛ in. thick is next applied and on this Armstrong 1¼-in. compressed cork. Mail-baggage cars have a triple flooring of tongue-and-groove fir.

Before the insulation was applied the inside of the outer shell, end and roof sheets, top of the false floor and stringers, and the outside of all inside metal finish were given a ⅛-in. coating of Insulmat. Three-inch Fiberglas with asbestos covering was then installed throughout with the exception of the floor, which took 2-in. insulation, and the water-tank housing with its 1-in. protection.

Advantage has been taken of the many advancements in high-strength lightweight materials for the inside finish. Masonite tempered Presdwood is used for wainscoting. The coaches have aluminum pier panels, and the diners have decorative stars on figured red gum Formica. Plymetl doors and partitions are protected by stainless-steel kick and splash plates for easier housekeeping. Kitchen and pantry are finished in stainless steel.

A departure from the conventional is the round windows in the upper part of the end doors. All glass is safety glass. Adams & Westlake aluminum breather-type double sash, glazed both inside and out with safety glass, are used in all cars.

A Westinghouse air-pressure water system is standard on all cars. The dining cars have a water storage capacity of 425 gal.; the coaches, 200 gal. The mail-baggage-dormitory cars have 225 gal. in two tanks, 200 gal. under the car and the rest overhead in the mail room. General Electric coolers provide ice water in the coaches. Heating is the Vapor Heating Corporation Zone Control type, with cooling by Frigidaire electro-mechanical air conditioning.

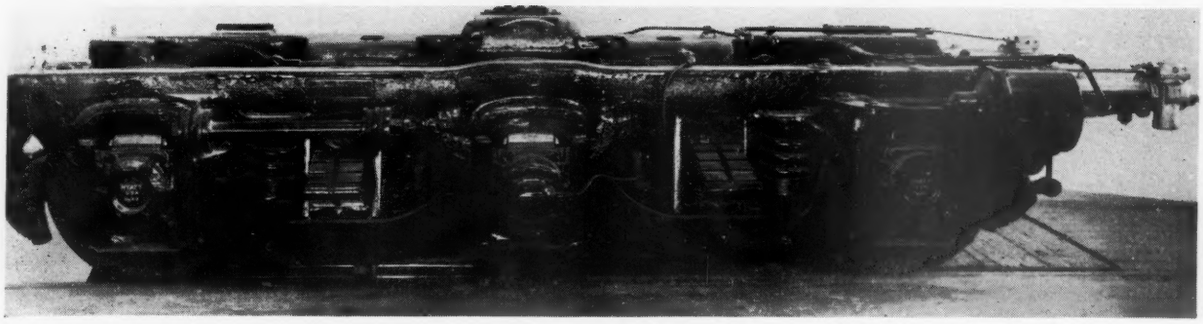
Electrical and Mechanical Equipment

Thirty-two-volt power is provided by Safety genemotors, 25 kw. and 25 hp., 220-volt capacity. It is driven by a V-belt unit equipped with Spicer automatic clutch. Due to the small power consumption a 5-kw. underframe type generator is used on the head-end car. The Gould batteries for the passenger-carrying cars are arranged in eight two-cell Monobloc trays; Edison storage batteries are used on the mail-baggage-dormitory cars.

Westinghouse HSC brake equipment is standard on all cars. Included are D-22-BR control valve, quick-service valve, 21-B magnet with 64-volt coils, relay valve with 32-volt coils and a complete generator-type speed governor. Brake cylinders are mounted

Weights of K.C.S. "Southern Belle" Cars, Lb.

Baggage-mail-dormitory	136,400
Divided coach	123,300
Coach	121,800
Diner	137,300
Sleeper	127,331



Baggage-mail-dormitory cars are carried on six-wheel trucks

four per car on the trucks, with braking power 250 per cent of the light weight of the car at 100 lb. cylinder pressure.

General Steel Castings four-wheel equalized coil-spring trucks with Houde shock absorbers carry the passenger cars and diners. The head-end cars have six-wheel trucks to carry the greater loads. Hyatt roller bearings are used throughout, while each truck is equipped with A.A. decelostats. The trucks are insulated wherever possible, with Fabreeka pads under the center plate, over the equalizer springs and over journal boxes. Simplex Unit Cylinder clasp brakes appear on all cars.

The couplers are National Malleable of the A.A.R. tight-lock type. They are fitted to coupler yokes with radial butt castings to suit Waughmat twin-cushion draft gears.

The addition of full dining cars to the "Southern Belle" led to conversion of the two observation cars from part diners to full lounge cars. They are divided by a bar-buffet into a 34-seat tavern section and a 24-seat observation lounge. The cars are named "Good Cheer" and "Hospitality."

The interior of the observation-lounge section features a light green ceiling with medium green walls. Dark green heater guards set off a henna-rust carpet. Lounge chairs are upholstered in Tacoma blue, Cloud gold, or Chevelaire green. In the tavern section the ceiling is light blue and the walls a medium shade of the same color. Table tops are red gum Formica with aluminum edging. Chairs and settees have blue antiqued leather upholstery. Yellow drapes and venetian blinds are used in all windows in both the tavern and the observation-lounge.

The Western Electric program-distribution and public-address system is controlled from a panel in the corridor partition of the buffet. This includes crystals pretuned to various stations along the route and wire-recorded music, the selection of which is controlled from central locations in the coaches and in each room of the sleeping cars.

The two-unit Diesel locomotives which will be assigned to these trains are made up of Electro-Motive 1,500-hp. F7 units. These locomotives have greater electric-motor capacity than their predecessors, attained by the use of Silicone, glass and mica insulation, and new fuel injectors which permit the use of a lower specification fuel oil.

THE I.C.C. RECONSIDERS

An examiner for the Interstate Commerce Commission advises that body to alter its previously formulated plan of reorganization for the Missouri Pacific Railroad. Among the changes he recommends is one which would recognize some value in the (old) preferred stock and give its owners a proportionately small amount of the proposed new common stock in exchange.

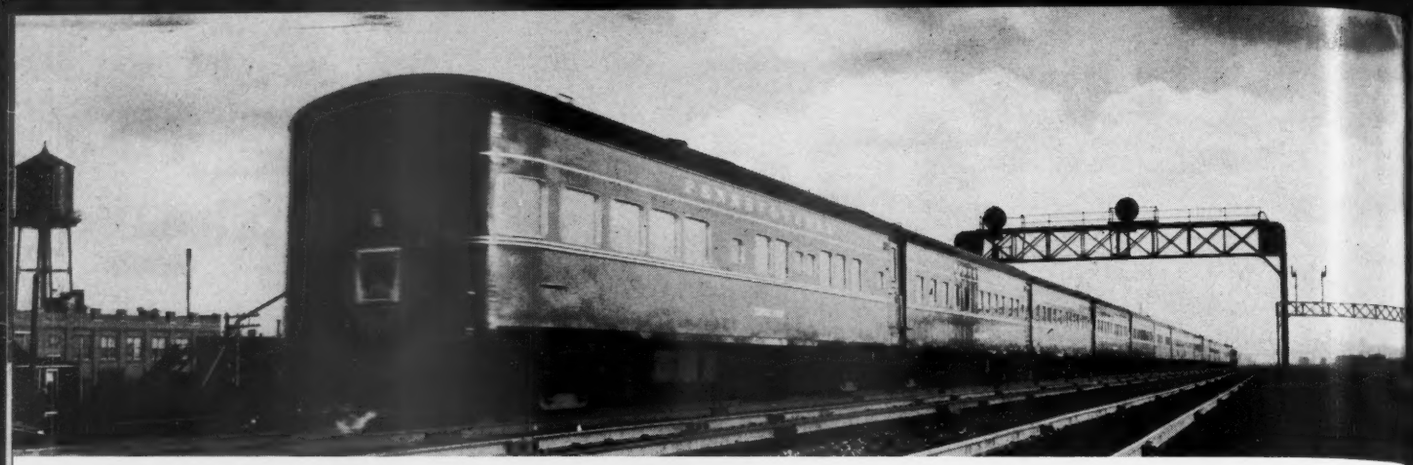
That is, the examiner proposes that the Commission concede, contrary to its earlier ruling, that the old preferred shares represent an equity in the property and its possible future earnings. In 1944 the Commission declared that, in the light of the principles which governed its action, no recognition could be accorded to claims of stockholders.

In the earlier declaration that the course of events had destroyed whatever position in the enterprise the preferred and common stockholders had, the Commission as good as said that these stockholders had died their economic death. It said the same thing about share owners of other railroads in reorganization; the difference between their cases and that of the Missouri Pacific is that the reorganization of the latter dragged along until rail traffic and earnings had plainly recovered so much as to breathe the breath of life into some of its putatively defunct stockholders. So the I.C.C. examiner proposes their disinterment.

Since the Commission itself more than a year ago requested the federal court having jurisdiction to remand the Missouri Pacific case for further Commission hearings and deliberation, it would seem not unlikely that the body will more or less agree with the examiner in believing that some dead stockholders have miraculously come to life.

It is too late, of course, for the I.C.C. to apply its pulmotor to the erstwhile stockholders of other railroads the reorganizations of which have been finally completed. They seem to be dead to stay. But it is devoutly to be hoped that the Commission will never again assert its authority to banish any stockholders from the future of the enterprise in which they have ventured their capital. The possibilities of the future are the essence of equity financing. They are not to be wiped out by fiat.

—*The Wall Street Journal*



THE PENNSYLVANIA'S NEW "BROADWAY LIMITED"

CAPTIONS READ COUNTER-CLOCKWISE

The new "Broadway Limited" — two all-room trains offering 16-hr. service between New York and Chicago — cost $4,614,000, including the locomotives

Custom-built sofa seats and lounge chairs, upholstered in coral, turquoise and gray, in the lounge car. The carpeting is black. On the end walls are built-up murals, on black wood, in Pennsylvania Dutch and early pressed glassware motifs. Lighting is from fluorescent tubes concealed in the ceiling. Refreshment service is from a stainless steel buffet located behind the camera

This twin-bed arrangement is achieved by folding away the partition between adjoining double bedrooms, each equipped with upper and lower beds, enclosed toilet annexes with complete lavatory facilities, panorama windows and wardrobes. The upper beds, not in position in this view, are concealed in the ceiling. Each room has two folding lounge chairs which fit beneath the lower beds at night

The magenta red leather chairs seat 68 passengers in this twin-unit dining car. Each table has an electric lamp. The walls slope in slightly and round toward the ceiling. The walls and ceilings are pale gray and the carpeting is violet blue. Partitions are finished in rift oak

DIESELS LED AS PRODUCERS OF 1948 PASSENGER CAR-MILES

First annual total exceeding that for coal-burning steam locomotives shown in I.C.C. bureau's "Monthly Comment"; other articles compare intrastate and interstate revenues from bituminous coal traffic, and present further analyses of 1948 financial results and of equipment obligations due in 1949

Passenger-train car-miles propelled by Diesel-electric locomotives exceeded those produced by coal-burning steam locomotives on an annual basis for the first time in 1948, according to data set out and analyzed by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission in the latest issue of its "Monthly Comment." The "Comment" also contained an article comparing intrastate and interstate revenues on bituminous coal traffic in 1947, and others which followed through from the previous issue to present further analyses of railway financial results in 1948 and of data on equipment obligations due in 1949.

The data on Diesel-electrics indicated, as the bureau put it, the "phenomenal growth" in the use of that type of motive power by Class I roads since 1941. The bureau also estimated that Diesel-electrics last year displaced 45.8 million tons of fuel coal, i.e., "if the equivalent of freight, passenger and yard services handled by Diesels in 1948 . . . had been performed by coal-burning locomotives it would have required 45.8 million tons of coal to do the Diesel portion of the work performed."

Diesels in 1948 Services

In emerging as 1948's foremost producer of passenger-train car-miles, the Diesel-electrics handled 39.55 per cent of the year's total as compared with 35.99 per cent handled by coal-burning steam locomotives. In 1947, the respective proportions were 27.23 per cent and 44.28 per cent, while in 1941 they were 7.75 per cent and 63.72 per cent. Displacements of other types of motive power by Diesels have been "relatively small," the bureau pointed out. Oil-burning steam locomotives handled 17.94 per cent of the 1948 passenger train car-miles, as compared with 22.01 per cent in 1941; and the proportions handled by electric locomotives were 6.5 per cent and 6.52 per cent, respectively.

Of the 1948 road freight service, as measured by gross ton-miles, Diesel-electrics produced 21.27 per cent of the total, as compared with 12.37 per cent in 1947 and 0.22 per cent in 1941. Meanwhile, the proportion produced by coal-burning steam locomotives fell to 59.46 per cent in 1948—from 66.92 per cent in 1947 and 79.66 per cent in 1941. Oil-burning steam locomotives produced 17.24 per cent of the 1948 gross ton-miles, as compared with 18.65 per cent in 1947 and 17.78 per cent in 1941; the proportions produced by electric locomotives were 2.02 per cent, 2.05 per cent and 2.34 per cent, respectively.

In yard service, Diesel-electrics performed 36.95 per cent of the 1948 operations as measured by yard switching-hours, and coal-burning steam locomotives performed 53.66 per cent. The Diesel proportion in 1947 was 31.75 per cent when the coal-burner proportion was 58.29 per cent; and in 1941 the respective proportions were 12.01 per cent and 75.77 per cent. Oil-burning steam locomotives accounted for 8.09 per cent of the yard service in 1948, 8.71 per cent in 1947, and 10.77 per cent in 1941.

The bureau's further comment on the showing called attention to the increases, in 1948 over 1941, of 20.8 per cent in gross ton-miles, 20.1 per cent in passenger-train car-miles, and 15.4 per cent in yard switching locomotive-hours. Despite these increases, it said, the total tonnage of locomotive coal consumed in 1947 was 4.7 million tons less than in 1941, a drop of 5.1 per cent, thus indicating that "the increased volume of traffic in each of these three classes of service was handled by motive power other than coal-burning steam locomotives, chiefly by Diesels."

Interstate Coal Traffic More Remunerative

In the article on revenues from bituminous coal traffic, the bureau estimated that "over $6,000,000" of additional revenue from that traffic in Official territory would have been realized in 1947 if the same revenue per ton had been earned on intrastate traffic as was earned on interstate traffic during that year. "On the same assumption, over $3,000,000 additional would have been earned in Southern territory," the bureau added. The estimates were developed from data taken from one of the so-called waybill studies recently issued by the bureau as Statement No. 493. The bureau noted that Official and Southern territories account for more than 83 per cent of the coal traffic, although it pointed out that similar analyses could be made for the other territories.

"Comparisons of the average revenue per ton for the various lengths of haul represented by the mileage blocks (short-line)," it continued, "show only three distance blocks, two in Official and one in Southern territory, where the intrastate exceeded the interstate revenue per ton. With these three exceptions, the excess of the interstate over the intrastate rates was very much greater in the South than in Official territory. In the 250-299 mileage block the excess in the South was more than 18 times that in Official." In the latter connection, the figures showed that the revenue

per ton for movements in the 250-299 mileage block in Official territory averaged $2.53 on interstate shipments and $2.50 on intrastate shipments, a difference of 3 cents. The respective revenues in Southern territory were shown as $2.64 and $2.08, a difference of 56 cents.

More on 1948 Financial Results

The bureau's further analysis of the 1948 financial returns showed that last year's estimated net income of $700 million for the Class I roads was the composite result of net incomes aggregating $731.8 million earned by 103 roads and net deficits aggregating $31.8 million incurred by 19 roads. Also presented was a table comparing selected income-account items of Class I roads for 1948 (based on cumulative monthly reports) with those of 1947 and 1941. Among the figures were those showing the ratio of income available for fixed charges to fixed charges—2.77 in 1948, the "highest reported in the past decade," the bureau noted. The previous high for that period was 1943's 2.55 per cent, while the 1947 and 1941 ratios were 2.22 and 1.84 respectively. The bureau's further comment on the figures included the following:

"Net railway operating income in 1948 was $221.9 million above that of 1947 and net income after all charges increased $209.6 million over the preceding year. The 1948 net railway operating income, however, exceeded that of 1941 by only $4 million although net income was up $198.6 million, primarily as the result of a decline of $197.5 million in total fixed charges. Dividend appropriations increased from $185.8 million in 1941 to $236.5 million in 1947 and to $289 million in 1948. The percentage relation of dividends to net income which was 37.1 per cent in 1941 increased to only 41.3 per cent in 1948 despite the fact that net income was about 40 per cent higher in the latter year."

In a subsequent discussion of 1948 traffic, the bureau attributed the continuing decline in passenger business to "the increasing competition of airplanes, buses and private automobiles." It also warned that the "appearance of some deceleration" in the rate of decrease in passenger traffic from 1947 to 1948 as compared with the drop from 1946 to 1947 "may be somewhat deceptive because of the inflation of the 1946 figures by the abnormal volume of returning troop travel in the first half of that year." Rail passengers carried decreased 8.6 per cent from 1947 to 1948 and passenger-miles dropped 10.3 per cent; the corresponding declines from 1946 to 1947 were 10.9 per cent and 29 per cent, respectively.

Equipment and Depreciation Charges

In its article on equipment obligations due in 1949, the previous "Comment" (see *Railway Age* of February 26, page 44) showed that Class I line-haul roads must meet 1949 payments totaling about $209 million on equipment trust certificates, conditional sales agreements, and other contracts covering the purchase of rolling stock. The current issue presented figures comparing the amounts of these payments with the charges to operating expenses for equipment depreciation in 1948 as shown by the carriers in their monthly reports. The bureau explained that the comparison is affected by inclusion in the depreciation figures of amounts accrued on shop and power-plant machinery, but it called the aggregate of those amounts "not relatively large." The annual reports for 1948, which separate the depreciation accruals, had not been filed when the comparative figures were set up.

The comparison showed that, for Class I roads as a whole, the 1949 payments due on equipment obligations are equivalent to 83.5 per cent of the charges to operating expenses for depreciation. By territories only the Southern region showed payments due in excess of 100 per cent of the depreciation charges, the percentage for that territory having been 103. "Stated in another way," the bureau said, "the Class I roads as a whole will be more than able to meet the 1949 payments due on the principal of their equipments out of funds representing depreciation charges on equipment plus that for shop and power-plant machinery."

Similar data were tabulated for 39 Class I roads which reported payments in excess of $1 million due on equipment obligations during 1949. The figures for 19 of these roads indicated that such requirements will exceed the 1948 depreciation charges, the percentages of excess ranging from 2.4 per cent for the Illinois Central to 110.9 per cent for the Kansas City Southern. As to the other 20 roads, where payments due are less than the depreciation charges, the range in the percentage relationship was from 36 per cent on the Atchison, Topeka & Santa Fe to "slightly under 100 per cent" for the Chesapeake & Ohio.

The bureau also looked over the record of 1949 equipment financing. It calculated that during the period from January 1 to March 1, the commission authorized 20 Class I roads to assume liability for equipment obligations, the principal of which totaled $90,593,000. It further calculated that the weighted average effective interest rate (actual annual cost of the money to the carriers) for the total amount authorized was 2.46 per cent. In addition to these authorizations, the bureau said, there were pending on March 1 applications of 10 Class I roads, which were seeking authority to assume liability for equipment trust certificates aggregating $75,548,000 in principal amount.

FOUNDATION FOR SAFETY

There are five fundamental principles through which safety can become a reality in railroad operation. They are:

1. Management must provide safe physical condition of property.

2. Management must provide safe working tools and equipment.

3. Employees must be physically and mentally alert and competent to perform the duties assigned to them in their everyday jobs.

4. Employees must strictly observe the operating and safety rules that, by experience and practice, have proven a guide to the safe method of doing work.

5. Each and every employee must realize that his own and his fellow workers' safety depends upon his every act.

—P. H. Van Hoven, president of the Duluth, Missabe & Iron Range, in accepting an award of honor given that road by the National Safety Council.

GENERAL NEWS

Hoover Group Rejects Unified Regulation Plan

Fails to go along on "task force" proposal for one commission

Rejecting a suggestion of the "task force" which made its transportation studies, the Commission on Organization of the Executive Branch of the Government (the so-called Hoover Commission) has failed to recommend that all federal regulatory functions dealing with transportation be consolidated under one regulatory agency. The commission's determination on this matter was noted in its report on "Regulatory Commissions" submitted to Congress on March 12.

Two members joined in a dissent to that phase of the report. They were Representative Clarence J. Brown, Republican of Ohio, a member of the House committee on interstate and foreign commerce, and James K. Pollock, chairman of the Department of Political Science, University of Michigan. "The arguments advanced for a continuation of the separate commissions are not sufficient to reject the proposed consolidation," their separate statement said.

As the majority report summarized it, the task force's suggestion contemplated that a single agency would be assigned all the "quasi-judicial and quasi-legislative functions of the Interstate Commerce Commission, the Civil Aeronautics Board, and the Maritime Commission." The commission's earlier report on the Department of Commerce included recommendations calling for transfer to that department of all major transportation activities of the federal government, except the regulatory functions (see *Railway Age* of March 12, page 95).

Additional Proposals

The present report repeated those recommendations and also made others, including proposals that all administrative responsibilities of regulatory commissions be vested in their chairmen; that salaries of commissioners be "substantially raised"; that salaries of members of commission staffs be increased "so as to attract persons of high professional competence"; that the regulatory laws be amended to permit the commissions to delegate more work to members of their staffs; and that the Administrative Management Division of the Office of the Budget, "with the aid of carefully selected legal consultants," suggest ways and means "to improve and thereby reduce the cost of disposing of business before administrative agencies."

In the latter connection, the report also said that the commission had no comment to make as to the fairness of existing administrative procedures; but it was "concerned" about the "growth of cumbersome and costly" procedures. "All of this detail," the report added, "is not required for 'due process,' or essential for fair and full solution of the various problems."

Problems of Coordination

In refusing to go along with its task force on the consolidation of regulatory functions, the commission majority said the I.C.C., C.A.B. and Maritime Commission "are already overburdened with work," that the "statutory approach to these three fields of transportation has been different," and that "entirely different techniques are needed for the solution of the problems in the various fields." The commission conceded that "some lack of coordination of national transportation policy" would arise as a result of separate continuance of the three agencies, but it went on to suggest that this possibility would be "greatly minimized" if its recommendation that all "executive" transportation functions be transferred to the Commerce Department is adopted.

"Coordination," the commission continued, "will be necessary, for land, sea, and air transportation have an intimate relationship to national defense, the postal system, and foreign commerce. Thus coordination will be required not only with the Department of Commerce but also with the National Military Establishment, the State Department, and the Post Office Department.

"The coordination of policies pursued by these independent regulatory commissions with those of the executive branch as a whole has been generally loose and casual. Though the problem has not been too serious in the past, coordination can now be easily effected because the above recommendations suggest that the chairman of each commission effect liaison between their commissions and the rest of the government. Such coordination as may be necessary—and the removal of the executive functions from these commissions will greatly minimize the area in which coordination is needed—can be affected through . . . machinery in the President's office and through the reorganization of the Department of Commerce."

In their separate statement advocating a single transportation regulatory commission, Messrs. Brown and Pollock dismissed as "not sound" the argument that some single form of transportation would thereby receive "preferential" treatment. "Similar misgivings," they said, "were advanced when the regulation of both motor carriers and pipe lines was transferred to the Interstate Commerce Commission. But several years of satisfactory experience

STRIKE HALTS WABASH TRAINS

All train movements—passenger, freight and yard—ceased at 6 a.m. March 15 on the 2,393-mi. Wabash and its subsidiary Ann Arbor. Approximately 3,500 operating employees were called from their jobs by the Brotherhod of Locomotive Engineers, the Brotherhood of Locomotive Firemen & Enginemen, the Order of Railway Conductors and the Brotherhood of Railroad Trainmen following failure of the National Mediation Board—which had intervened and forestalled strike action on January 20—to bring the parties to a settlement in a dispute over a backlog of grievances. The disagreements concern local issues and do not involve wages. An embargo against all carload and less-carload freight, mail, baggage, express and passenger traffic, was placed shortly after noon on March 15.

After the strike had got under way, President Truman issued an executive order creating an emergency board to investigate the disputes. This was expected to result in back-to-work orders from the union leaders, but the strike was still in effect as this issue of *Railway Age* went to press. Lay-off notices for some 8,500 non-operating employees had been posted to become effective over the week-end should the strike not be called off by that time.

Meanwhile, Homer C. King, director of the Interstate Commerce Commission's Bureau of Service issued King's Order No. 53, authorizing other roads to disregard routings and forward freight routed via the Wabash and Ann Arbor over any available open routes. The order was issued under the provisions of I.C.C. Service Order No. 562 which makes Mr. King the commission agent to divert and reroute freight traffic and empty cars to avoid congestion; it became effective at 9:30 a.m. on March 15.

since the action was taken testify to the fallacy of that argument."

The dissenting members of the commission went on to emphasize that the "new combined commission" which they had in mind was not intended to be a "revamped" I.C.C. The latter, they added, "is by no means an ideal pattern as to size, organization or methods of procedure." It was their conclusion that the I.C.C., C.A.B. and Maritime Commission "should be abolished in favor of an entirely new agency to succeed to their regulatory functions." Messrs. Brown and Pollock further explained their proposal as follows:

"Since the major purpose of this consolidation is to make possible a consistent and balanced policy among competing forms of transportation, it is essential that the new Transportation Regulatory Commission should function as a whole commission on all major rate and other regulatory matters. The combined commission should be governed by the same general standards that now apply to other regulatory commissions. Its members should be appointed by the President and confirmed by the Senate. It should be bipartisan in character with the usual restrictions as to removal by the President. In our opinion the number of its members should probably be either five or seven. We do not consider a larger membership desirable since we are opposed to any plan of representation on the commission by form of transportation to be regulated, and because we believe that one of the detriments to efficient operation of the Interstate Commerce Commission has been its unusually large membership.

"The internal organization of the commission's staff should, of course, be carefully worked out over an extended period of time. The ultimate objective, however, should be to move away from organization on an industry basis (air, rail, motor carrier, etc.) toward a process type of organization (accounting and cost finding, economics and statistics, finance, etc.) . . . ."

Treasury and Labor Department Reports

In another recent report, on the Treasury Department, the Hoover Commission recommended that the operations of the Reconstruction Finance Corporation should be placed in that department with general responsibility for its supervision vested in the Secretary of the Treasury. That report listed R.F.C. among "independent agencies" which, as a practical matter, "are accountable to nobody," because the President to whom they report directly "cannot give the necessary time for their supervision."

Still another recent report of the commission dealt with the Department of Labor, and recommended that various agencies be transferred in whole or in part to that department. Those recommendations did not propose to change the present status of the National Mediation Board, although the commission noted that the question of transferring N.M.B. to the Labor Department "for housekeeping purposes" was among those raised during the course of its investigations.

I. C. C. Refuses to Permit C. & E. I. To Drop Automatic Train Control

Division 3 of the Interstate Commerce Commission has denied a petition wherein the Chicago & Eastern Illinois sought authority to discontinue use of automatic train control between Dolton, Ill., and Clinton, Ind., 146 mi. The decision was embodied in a report dated March 4 on further hearing in No. 13413.

The C. & E. I. petition was opposed by the Brotherhood of Locomotive Engineers, Brotherhood of Locomotive Firemen & Enginemen, Order of Railway Conductors, and Brotherhood of Railroad Trainmen. The railroad contended that the train-stop system, a Miller system of the intermittent electrical contact type, has become obsolete, that it fails frequently, and is difficult and costly to maintain; also, that trains can be operated safely on the double-track line involved with its automatic block-signal system which is now being modernized.

The C. & E. I. also noted that the commission's outstanding order requiring additional signaling and train-control devices on high-speed lines calls for automatic train control or cab signals only on lines where trains are operated at 80 m.p.h. or faster. The road proposed to establish a speed limit of 79 m.p.h. on the line if its petition were granted. As to that, the commission said that because it prescribed "certain additional safety devices" where trains are operated at 80 or more m.p.h., "it does not follow that we should permit removal of existing similar safety devices if train speeds are reduced to less than 80 m.p.h. Where, as here, one of these additional safety devices is in operation, the sole test, irrespective of the train speeds, is whether its discontinuance would decrease safety of operation."

Meanwhile, the commission had rejected the C. & E. I.'s contentions as to obsolescence, finding that, although the Miller system has not been manufactured in 10 years, all but a few parts needed for maintenance "are standard and can be readily purchased," while the few not thus available can be ordered or manufactured in C. & E. I. shops at reasonable cost. As to failures, the report noted that 1947 failures affected but one of each 169 trains and averaged less than one for each equipped locomotive; and that all but two of 1,625 failures from 1938 through 1947 were "false restrictive" failures. "These . . . affect the efficiency of operation to some extent but cannot have any adverse effect on the safety of operation," the report added.

Enginemen employed by the C. & E. I. testified, as the report summarized their statements, that the curvature of the line "seriously interferes with the observance of the wayside signals"; also, that fog is frequently encountered along the line—this despite a government bulletin, introduced by the railroad, which showed that there is an average of only five or 10 days of dense fog in the territory each year.

The commission's specific findings were: "(1) From an operating standpoint, petitioners' train stop system is not obsolete but has been improved somewhat over the years and that the cost of maintenance of same is not excessive; and (2) that the discontinuance of such system would substantially reduce the safety of train operation."

Money for Retirement And Mediation Boards

Appropriations totaling $715,889,000 for the Railroad Retirement Board and $928,500 for the National Mediation Board and National Railroad Adjustment Board are carried in the labor-federal security appropriation bill for the fiscal year ending June 30, 1950, passed by the House on March 9. The House's action sent the bill (H.R. 3333) to the Senate, where it was referred to the appropriations committee.

The House-approved appropriation for the Mediation and Adjustment boards was the same as that recommended in President Truman's budget for fiscal 1950, but the House committee did not accept all the budget recommendations with respect to the Retirement Board. Among such recommendations was a proposed change in the plan of appropriating to the Railroad Retirement Account the tax revenues collected under the Carriers' Taxing Act. Under the present plan, the amount of estimated taxes is appropriated from the Treasury's general fund, the latter being reimbursed and adjustments made after the taxes are collected. The budget proposed to change this annual "specific" appropriation to an annual "indefinite" appropriation, which would automatically make available all of the tax collections whether or not the amounts collected were greater or less than the estimated collections.

The House committee conceded in its report on the bill that the ultimate amount of the appropriation would be "identical" under either arrangement; but it nevertheless rejected the proposal because it lacked "complete information" as to the "significance of the historical practice of making annual special appropriations in advance as related to the status and condition of the retirement trust fund." The report went on to express the commit-

WARNS OF NEW ATTEMPTS TO PUSH ST. LAWRENCE PROJECT

"The road to national socialism . . . is paved with ice for five months of the year, which makes it such a slippery deal that the schemers have not been able to put it over. They invent every conceivable contraption and invoke high-sounding shibboleths to cloak their selfish purpose to sell the Port of New York and the over-all economy of the country down the St. Lawrence river. This effort has been going on, with increasing tempo, for nearly 50 years. Now the planners, including the pink-coated intellectuals, mounted and in full cry, are readying for the kill. Recently a mass meeting in Cleveland adopted the slogan, 'This is the year.'

"That means, according to their way of thinking, that the hour has struck for the building of a navigation and power project at a cost of anywhere from $1,000,000,000 up. That would be one way to sink the American merchant marine. That would threaten the solvency of this port, would cause an annual loss to the railroads in traffic revenue of from $100,000,000 to $250,000,000 and would establish in the northeastern states a power transmission grid, under a regional agency, patterned after T.V.A. Some railroads would face bankruptcy, which spells nationalization. The electric power companies, if T.V.A. history is a yardstick, would pass out of private ownership, for neither those companies nor the railroads can compete with operations subsidized by the government. Then, without a shot being fired, we would be well on our way toward that dictatorship in which ownership of property has gradually drifted into a central government, against which General Eisenhower warned only a few days ago.

"However fiercely you have fought the St. Lawrence plan, however arduous some of you may feel it is to rally again to retain your rights, there is no doubt of the urgency for concerted effort more intense than ever before. Consolation is to be had from the almost certain knowledge that defeat of the proposal by the 81st Congress would end any serious agitation for a considerable period . . .

"Last year the mayor of New York correctly characterized the proposal as flowing from the special interest of a comparative few. He added, 'the interests of our nation and the majority of our people will be jeopardized by the seaway project,' and he asked, 'is it in the interest of the nation to discourage the use of, and possibly destroy the great ports of the Atlantic coast and the Gulf?'

"Throughout the years, sparking this scheme of navigation and power, has been the public power crowd, which now embraces practically the entire membership of the rural electric co-ops, numbering close to 2,000,000 persons. Their goal follows the Ickes line of dividing the nation into seven great regional agencies. Their interest in the power phase of the proposal lies in the momentum it would give to the extension of subsidized and tax-exempt electric power supplies — the expensive racket that is euphemistically called 'cheap power,' in the lingo of socialism. Many misguided people seem to be unaware of the impetus this navigation-power project would give to national socialism, not only by the direct entry of government into wider fields of electric power supply, but also by adding to the troubles of the railroads, giving them one more push toward bankruptcy and consequent acquisition by the government . . .

"Always bear in mind that you will defeat the proposal if you work only half as hard to hold the business you now have, business threatened by the St. Lawrence scheme, as you do work, in your everyday activities, to secure new business. Do this not only for your own personal interests and for the future of the Port of New York. Do it to halt the trend of governmental usurpation of the rights of citizens and of expropriation of the results of American enterprise. Unless that trend is reversed, destruction of a society of free men and of the economy that flows from the vigor of their enterprise will follow."

—From an address by Carroll B. Huntress, chairman of the National St. Lawrence Project Conference, at the "Port of New York Night" banquet of the Foreign Commerce Club of New York on March 15

tee's desire to hear a full presentation, of the matter by the board at next year's hearings on the appropriation for fiscal 1951.

Meanwhile, the committ : did adopt another of the budget's recommendations which called for provision of funds for the board's administrative expenses by an allocation directly from the retirement account. The approved allocation totals $5,104,000, which is included in the appropriation of $715,889,000 mentioned above. Previous appropriations for the board's administrative expenses have been made from the Treasury's general fund, with subsequent reimbursement to that fund from the retirement tax collections. The $5,104,000 is $674,000 more than the $4,430,000 appropriated for that purpose in the current fiscal year.

The committee's report also discussed at some length the present applicability of the military-service-credits provisions of the Railroad Retirement Act. Those provisions call for appropriations from the Treasury's general fund to maintain the status, as to benefits, of railroad employees in voluntary or involuntary military service during any "war service period." When the board's appropriation for the current fiscal year was made. Congress provided that the war period for purposes of these military-service credits would end June 14, 1948. After enactment of the Selective Service Act of 1948, signed by the President June 24, 1948, the board determined that military-service credits were thereby revived with respect to any railroad employee entering military service (voluntarily or involuntarily) after that date. The board's determination, insofar as it applied to railroaders taken involuntarily into military service, appeared "sound" to the committee; but it could find "no basis" for agreeing with the determination as it applied to railroaders entering military service voluntarily.

The committee called the matter to the attention "of the proper legislative committees of the Congress for such consideration and action as may be deemed necessary." Meanwhile, it proposed no fiscal 1950 appropriation to provide for military-service credits. This had been recommended in the budget which suggested that further appropriation for that purpose be deferred "until the actual need for additional funds arises."

The $928,500 provided in the bill for the Mediation and Adjustment boards compares with appropriations totaling $862,550 for the current fiscal year. The fiscal 1950 proposal included $360,400 and $468,100, respectively, for N.M.B. and Adjustment Board "salaries and expenses,'" and $100,000 for arbitration and emergency boards. In approving the budget recommendations for these boards, the House committee said it had always found them "to be very modest in their requests and to exercise a commendable conservatism in the expenditures of funds granted for their operations."

I.C.C. Authorizes C.N.J. To Raise Commutation Fares

The Central of New Jersey has been authorized by the Interstate Commerce Commission to increase commutation fares between New York and points on its line in New Jersey, including points on the New York & Long Branch. The authorized increases will average about 16 per cent over-all, as compared with increases averaging about 30 per cent proposed by the railroad.

That proposal was embodied in tariffs filed to become effective July 5, 1948, but suspended by the commission when it instituted the proceeding (I. & S. No. 5585) out of which the present report by Commissioner Rogers has come. The Board of Public Utility Commissioners of New Jersey suspended the tariffs insofar as they proposed increases in intrastate fares, and members of that board sat on hearings in the case along with an I.C.C. examiner. "The two regulatory bodies have reached harmonious conclusions," the I.C.C. report said.

The C.N.J. estimated that its proposal would have increased its annual commutation revenues by approximately $925,000. Thus the authorized increases may be expected to produce approxi-

mately half of that amount. They will be added to 1946 and 1947 increases which, Commissioner Rogers said, have augmented C.N.J. commutation revenues by about $1,000,000 a year.

The authorized increases, based on the so-called unrestricted monthly fares, are set out for various distances in an appendix to the commissions' report. As the report described them generally, they are to be advances of not more than $3 above the present unrestricted monthly fares for distances from 21 to 43 miles, with fares for 20 miles down to 1 mile graded into the present fare for the latter distance—"such revised scale to be applied uniformly between all points on respondent's line, including points on the New York & Long Branch, with restricted monthly and weekly commutation fares made, respectively, the customary 90 and 25 per cent thereof."

The report described the higher scale proposed by the C.N.J. as being "in the form of a rainbow," with increases in the unrestricted monthly fares "ranging from $1.85 at 4 miles and rising rapidly to $5.10 at 20 miles and gradually diminishing to 5 cents at 65 miles with reductions beyond." "The weekly fares," the report added, "would be higher than the 10-trip multiple fares for distances up to 12.4 miles. On interstate travel to and from points on the Long Branch, a skyrocket would be added to the rainbow, due to the 20 per cent minimum proposed, so that for distances of 39 to 61 miles, the fares from and to points on that line would be higher than for similar distances from and to points on other portions of respondents' line. Respondent's proposal would also change without justification the relation between the restricted and unrestricted monthly fares . . . "

The whole proposal, as the report also put it, "would go far toward restoring the helterskelter and illogical structure which the 1947 proceeding was designed to correct." The "1947 proceeding" was *Increased Passenger Fares,* Eastern Railroads, 269 I.C.C. 87, 106.

EMERGENCY BOARD RULES ON 40-HR.-WEEK; DETAILS SECRET

The three-man emergency board which, since February 7, has been interpreting certain phases of its December 17, 1948, report in an effort to settle the dispute between the carriers and non-operating unions, handed down its recommendations at Chicago on March 13. However, none of the board's interpretations had been revealed as this issue of *Railway Age* went to press. Its recommendations are, by mutual agreement of both parties, binding on only one point — how the 40-hr. week is to be applied. Following issuance of their decision, the three fact-finders departed for their respective homes, subject to recall.

Meanwhile, representatives of the railroads and unions held joint meetings for the purpose of reaching accord on what are understood to be minor points, agreement having been arrived at on major issues. One of the principal points upon which the board had been asked to rule is the application of the staggered 40-hr. week. The unions would like workers to have two consecutive days off, preferably Saturday and Sunday, while the carriers desire that, in some cases, the days be split.

At the time of writing, the "lid was on" the details of the fact-finders' ruling, by mutual agreement of the disputing parties that no press statements be given until the final contract had been signed. Certain statements attributed to union leaders which have appeared in the daily press, say carrier spokesmen, are unofficial.

I.C.C. Won't Reopen Case On Forwarder-Trucker Pacts

The Interstate Commerce Commission has denied petitions for reconsideration of the decision wherein it fixed the terms and conditions under which freight forwarders may utilize the services and instrumentalities of motor carriers. The petitioners for reconsideration included the National Industrial Traffic League, the Freight Forwarders Institute, and American Trucking Associations.

The decision, in No. 29493, authorizes forwarders and motor carriers to enter agreements under which the truckers may charge less than their published tariff rates for performing so-called assembly and distribution services for forwarders. Under agreements covering terminal-to-terminal trucking of forwarder freight, however, the payments to the truckers must be no lower than they would receive under their tariffs. The decision also reaffirmed previous commission condemnations of joint-rate arrangements between forwarders and motor carriers, thus disqualifying any such arrangement for inclusion in forwarder-trucker agreements (see *Railway Age* of October 9, 1948, page 74).

Slow-Down Strike Forces R. E. A. To Embargo New York Shipments

Because of a "slow-down" strike by some 5,700 loaders and package sorters in its New York terminals, the Railway Express Agency on March 19 declared an embargo on all rail and air express traffic into, out of and through New York City, except carload shipments. The Agency has also abolished the jobs of the strikers, who are represented by the Brotherhood of Railway Clerks, and of an additional 3,300 drivers, affiliated with the International Brotherhood of Teamsters. Although not involved in the strike, the drivers have been unable to work because of it.

The striking employees, R. E. A. said, are "apparently using this means to force settlement of demands made on a national basis some months ago, but which, in accordance with the terms of the Railway Labor Act, are being mediated by the national officers of the organization and the company's committee on personnel and labor relations. . . . The management offered the employees an increase of 7 cents per hour, retroactive to October 1, 1948, and a staggered work week of 40 hours, at the same rate of compensation now paid for 44 hours, effective September 1, 1949, following the terms of an agreement which had been made by the Agency with its vehicle employees . . . outside the New York district. This offer was declined. . . . Mediation has continued since then, but progress has been delayed by the clerks' organization to await the outcome of the dispute of the non-operating railroad employees on similar demands. . . . Since the dispute is in mediation, the slow down strike is in violation of the law."

New Haven Asks Cape Codders To Choose Own Summer Schedules

Residents of Cape Cod, and those who spend their vacations there, this week were offered by the New York, New Haven & Hartford an opportunity to choose their own train schedules for this summer. The New Haven, in a series of newspaper advertisements throughout New England, printed ballots offering its patrons a chance to vote on the summer schedules of three week-day trains and two Sunday trains in each direction between Boston, Mass., and Hyannis, with through cars to and from Woods Hole. In addition, the New Haven inquired about the interest in a week-day Boston-Hyannis commuter express which, it was proposed, would make the run in less than two hours.

Harold W. Quinlan, passenger traffic manager, said "a lot of our patrons have told us that if we ran trains at 'convenient times' scores of them would stop driving their automobiles up and down from the Cape. We have, therefore, decided to let the patrons themselves select their own summertime schedules. . . .We hope also to make sure that we have done everything possible to give the Cape just the summertime train service which it wants and which, scores have told us, will permit us to operate the trains between Boston and Hyannis and Boston and Woods Hole at a profit."

Shippers Lash Out at Railroads' Proposed Freight-Rate Increase

The request of the railroads for a permanent freight-rate increase of 13 per cent came under a barrage of adverse testimony at Chicago this week as shippers of all types of products showed up before Division 2 of the Interstate Commerce Commission to register their protests. The Chicago sessions are the first regional hearings on the carriers' Ex Parte 168 petition, and

followed seven days of hearings concluded at Washington, D. C., on March 9, during which the railroads presented numerous witnesses in support of their petition (see *Railway Age* of March 5, page 56, and March 12, page 92). Sitting at the general session in Chicago are Commissioners Aitchison and Splawn and Chairman N. J. Holmberg of the Minnesota Railroad and Warehouse Commission, who are expected to wind up the Chicago hearings on March 21. Three so-called "side show" hearings were scheduled to be held by Examiners Hall (grain and grain products) and Witters (lumber-forest products and livestock-fresh meats-packing house products).

Shippers who appeared on March 14 —first day of the hearing—testified, almost without exception, that any further increase in rail freight rates would drive traffic from the railroads to trucks. The over-all effect of a rate boost, the shippers contended, would be a loss of revenue by the railroads. A North Dakota shipper of large quantities of potatoes said that higher rail rates might force farmers to band together and purchase trucks for movement of their products. This witness added, however, that rail service is preferable to that of trucks for transportation of potatoes because it permits proper distribution and a stable price structure and facilitates inspection.

Typical of shippers' testimony was that of W. W. Spangler, general traffic manager of the Zonolite Company, who said that his firm felt no ill will toward the railroads, that it has stayed with the rail carriers as long as possible and that it wants to continue with the railroads. He asserted, however, that recent rail freight rate increases have "broken our backs," and that, as a result, his company is negotiating with truck operators for certain movements of its products. On the other hand, said the witness, if the proposed rate boost is not granted his company will cease negotiations with truckers.

Not Enough Money for Back-Seat-Drivers on Diesels

Declaring that "the sharp decline in traffic is tightening the squeeze on the nation's railroads," J. M. Symes, vice-president-operations of the Pennsylvania, expressed grave concern over the inability of the railroads "to modernize their plant and equipment as fast as they should in order to reduce costs and improve service." The P.R.R. officer's presentation was made in Chicago, on March 14, as the President's emergency board, after a three-week recess, resumed its public hearings on the demands of the Brotherhood of Locomotive Engineers for an additional engineman on Diesel locomotives.

Mr. Symes said the unions were demanding "a sort of back-seat-driver arrangement" to create more high-pay jobs. He cited runs on which Diesel enginemen receive more than $5 an hour, which, he claimed, is more than division superintendents are paid.

Asserting that the improved financial showing of the Pennsylvania in 1947 and 1948 "was directly related to increased operating efficiency due to the extended use of Diesel locomotives," the witness went on to say that any action which would decrease efficiency of this type of motive power would be a serious blow to his railroad.

Mr. Symes told the board that the $522 million spent by the Pennsylvania for capital improvements during the seven-year period ending in 1929 provided three times the new equipment and improved facilities that it would today. "By the way of contrast," he said, "at the end of 1948 our plant and equipment has not been modernized as it was in 1929. There remains about $600 million that should be spent on capital improvements. The quicker it is spent the better off we will be from the standpoint of providing the best possible service at the lowest possible cost and of meeting the requirements of commerce, the postal service and, what is most important, the needs of national defense.

"We have $253 million right now in deferred maintenance—$206 million in road facilities and $47 million in equipment. We have 13,353 fewer employees in all departments than we had a year ago. One-third of this reduction is in the maintenance forces. We are piling deferred maintenance since the war on top of deferred maintenance that occurred during the war. Notwithstanding these layoffs, our net income in January this year was under $1 million. For February we will be in the red about $3 million. March is still an unknown situation."

Automatic warning and correcting devices on road Diesel locomotives "make it unnecessary to carry additional crew members," Fayette Thomas, assistant to general superintendent of equipment, New York Central System, told the board. "These automatic devices function more positively than if a maintainer or inspector were used as a substitute for them and were carried at all times," Mr. Thomas said. "They warn in time against machinery damage and the hazard of personal injury. These automatic features either themselves relieve the unwanted condition or they signal the operating engineer."

Denies Great Northern Petition For Relief from Signaling Order

Division 3 of the Interstate Commerce Commission has denied a petition wherein the Great Northern sought authority to operate two streamlined trains at speeds in excess of 80 m.p.h. over three sections of its line without installing automatic train-stop or cab-signal systems, as required by the commission's June 17, 1947, order in the No. 29543 proceeding. The adverse report by Commissioner Patterson found no necessity for the proposed relief, because speed in excess of 80 m.p.h. "is not necessary to maintain present train schedules but is sought for the sole purpose of making up a maximum of 25 minutes lost time."

The trains involved are the westbound and eastbound "Empire Builders," operated daily between Chicago and Seattle, Wash. The sections of line, where authority to operate at maximum speeds of 85 m.p.h. was sought, are be-

"REASONABLE CONCLUSIONS"

The railroads have demonstrated a continuity of increased efficiency.

Within the limitations of financial ability, the railroads have encouraged the development of and progressed the active application of proven ways and means to achieve greater efficiency of operation and improved transportation service. This open-minded approach to change obtains today. Railroad men are searching for better ways of doing the job as never before under the economic pressure of a disproportionately high "break even" point.

Without financial ability, accelerated operating economies in the direction of labor saving equipment, such as locomotives of greater fuel and maintenance economy, cars of construction requiring less maintenance work and roadway machines to take over hand operations, are impossible of accomplishment.

So long as the American railroads continue to be privately owned and operated, and financially stable, the past trend toward improved efficiency and economy of operation may be expected to continue. Much remains to be accomplished in achieving greater standardization of materials and equipment; in perfecting and installing labor saving machinery of all kinds.

Inability to foresee reasonable income is a major deterrent to carrying out the further modernization of facilities and equipment necessary to a continuity of greater efficiency.

Though proud of the achievements made toward improving the art of railroad transportation, every thoughtful student of operation knows that ever-changing conditions will open new opportunities for greater economy and higher efficiency. Prospective savings from presently known means are not exhausted. Two ingredients are vital—money and time.

—From the testimony of P. M. Shoemaker, vice-president, Delaware, Lackawanna & Western, in Ex Parte 168, before the Interstate Commerce Commission at Washington, D. C., March 1

tween Long Lake, Minn., and Breckenridge, 183 mi., Nolan, N. D., and C. K. Switch, near Minot, 190 mi., and Lyons, Wash., and Canby, 25 mi., a total of 398 mi. The road argued that, if it were required to lengthen the schedules of the trains, it might have to purchase additional equipment to maintain daily service; and that, in the alternative, it would require a substantial outlay to install a cab-signal system. Meanwhile, some of its locomotive engineers, who appeared as witnesses for the Railway Labor Executives' Association, testified that wayside signals are not always clearly visible because of weather conditions and that added safety devices would be of "great benefit, particularly when trains are operated at the higher speeds."

The commission calculated that the scheduled times did not contemplate average speeds in excess of 67.86 m.p.h. over any of the three sections. Thus its conclusion that authority to run 85 m.p.h. was sought only for the purpose of making up lost time. The report had previously noted that the G. N. petition was one of several similar pleas before the commission; and that the only relief sought in most of the others is also modification of the June 17, 1947, order to permit operation of streamlined trains at 80 or more m.ph. without installing a train-stop, train-control or cab-signal system, and "in some cases without installing a manual or automatic block signal system." Each of these petitions will be dealt with in a separate report, the commission added.

K.C.S. TO REDUCE MULTIPLE-RIDE COACH FARES APRIL 3

Coincident with inauguration on April 3 of its new "Southern Belle" service (described elsewhere in this issue) the Kansas City Southern will launch a plan whereby coach fares will be reduced from 20 to 44 per cent. W. N. Deramus, president of the K.C.S., announced the arrangement following its approval by the Interstate Commerce Commission.

Under the new plan, passengers may purchase coupons good for 2, 4, 10, 100 and 200 trips, usable within a 30-day period. The two-trip ticket, said Mr. Deramus, will cost approximately 1.75 cents per mile, while the 200-trip ticket will average about 1.4 cents per mile. Present coach fares are based on 2.5 cents per mile for one-way tickets and 2.25 cents per mile for round trips.

The two-trip ticket will permit a passenger to make two one-way trips, or a round trip, between any two stations on the K.C.S. Lines (including the Louisiana & Arkansas). A four-trip ticket may be used by two persons who make one round trip each, or by a party of four for one-way passage. Likewise, a group of 100 may purchase the 200-trip ticket for a round-trip journey.

"We soon will offer the best passenger service in our history," Mr. Deramus said, "and we intend to do everything possible to make it available to all the people along our lines. Our new coach fares will provide the most economical means of travel, we believe, and will cost even less than the operation of an automobile."

January Accident Statistics

The Interstate Commerce Commission has made public its Bureau of Transport Economics and Statistics' preliminary summary of steam railway accidents for January. The compilation, which is subject to revision, follows:

Item	Month of January 1949	1948
Number of train accidents* ..	903	1,230
Number of accidents resulting in casualties	44	92
Number of casualties in train, train-service and nontrain accidents:		
Trespassers:		
Killed	74	74
Injured	64	55
Passengers on trains:		
(a) In train accidents*		
Killed	—	14
Injured	99	275
(b) In train-service accidents		
Killed	3	4
Injured	180	184
Travelers not on trains:		
Killed	—	—
Injured	63	111
Employees on duty:		
Killed	36	52
Injured	2,324	3,110
All other nontrespassers:**		
Killed	149	174
Injured	674	755
Total—All classes of persons:		
Killed	262	328
Injured	3,404	4,490

*Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of more than $250 to railway property in 1948. Beginning January 1, 1949, this minimum was raised to $275. Only a minor part of the total accidents result in casualties to persons, as noted above.

**Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and non-trespassers,* were as follows:

Persons:		
Killed	139	160
Injured	447	467

March 11, 1949

I.C.C. Refuses to Reopen Consolidated Classification Case

The Interstate Commerce Commission has denied several petitions which had sought to have it reopen No. 28310 investigation of the Consolidated Freight Classification. The commission's decision in the case, made in May, 1945, requires the railroads to formulate a uniform classification for application throughout the country.

The petitions for reopening included those of the National Industrial Traffic League, the Shippers Conference of Greater New York, the Manufacturers Association of Connecticut, the Lynchburg (Va.) Traffic Bureau, the Minneapolis (Minn.) Traffic Association, chambers of commerce of Indiana, Milwaukee, Wis., Richmond, Va., Los Angeles, Cal., Pittsburgh, Pa., and Detroit, Mich., and trade and shipper associations. As the commission summarized them in its denial order, they asked reargument on the 1945 decision "in order that the commission may clarify and further define the views expressed in said report." In making that request the petitioners expressed dissatisfaction with the manner in which the railroads are undertaking to comply with the commission's decision.

The commission's denial order led up to its adverse ruling on the pleas with this comment: ". . . the Interstate Commerce Act itself, in sections 1(4) and 1(6) thereof, in explicit language, makes it the duty of common carriers to establish, observe and enforce just and reasonable classifications of property for transportation; . . . the findings in the commission's report in this proceeding and the conclusions reached therein relative to the principles and elements which should be considered in the construction of a uniform classification are in harmony with the requirements of the act and are sufficiently clear and specific; and . . . reopening of this proceeding for the purposes sought by the petitioners inevitably would delay ultimate compliance with the commission's decision and could accomplish no useful purpose."

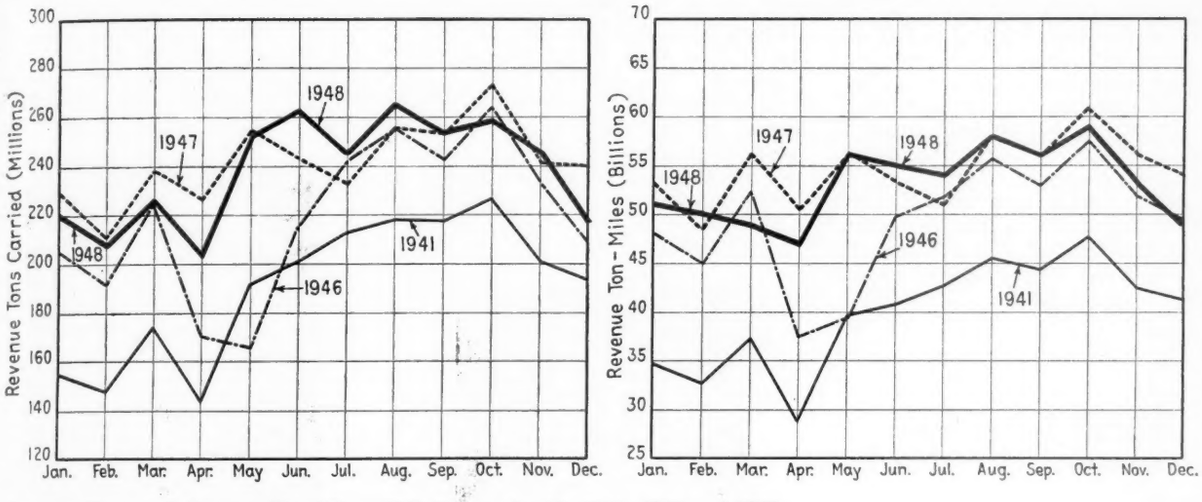
Freight Car Loadings

Loadings of revenue freight totaled 709,326 cars in the week ended March 12, the Association of American Railroads announced on March 17. This was an increase of 3,774 cars, or 0.5 per cent, over the previous week, a decrease of 87,160 cars, or 10.9 per cent, under the corresponding week last year, and a decline of 131,821 cars, or 15.7 per cent, under the equivalent 1947 week.

Loadings of revenue freight for the week ended March 5 totaled 705,552 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loadings
For the week ended Saturday, March 5

District	1949	1948	1947
Eastern	132,686	154,474	149,424
Allegheny	147,598	170,933	168,511
Pocahontas	54,948	69,514	66,429
Southern	124,341	136,718	134,994
Northwestern ...	78,310	78,365	93,566
Centeral Western	111,704	118,078	127,885
Southwestern ..	55,965	63,902	64,966
Total Western Districts	245,979	260,345	286,417
Total All Roads	705,552	791,984	805,775
Commodities:			
Grain and grain products	46,721	33,264	51,340
Livestock	8,379	10,053	13,190
Coal	138,434	190,054	180,463
Coke	15,630	14,523	14,362
Forest products .	36,933	42,900	47,115
Ore	14,185	13,494	13,011
Merchandise l.c.l	96,484	115,626	121,553
Miscellaneous ..	348,786	372,070	364,741
March 5	705,552	791,984	805,775
February 26 ...	688,128	790,910	849,991
February 19	697,335	804,937	776,589
February 12	699,442	733,870	799,977
February 5	682,143	746,936	767,301
Cumulative total 9 weeks	6,316,219	7,005,239	7,315,725



Revenue Tons and Revenue Ton-Miles—1948 Compared with 1941, 1946 and 1947

In Canada.—Carloadings for the week ended March 5 totaled 73,755 cars, compared with 73,224 cars for the previous week, and 74,610 cars for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
March 5, 1949	73,755	32,781
March 6, 1948	74,610	37,710
Cumulative totals for Canada:		
March 5, 1949	647,926	291,554
March 6, 1948	655,782	321,213

Eliminate Reserved Coach Seats On Three Rock Island "Rockets"

Deliveries of passenger equipment have enabled the Chicago, Rock Island & Pacific to meet, with but one exception, all normal requirements for coach seats on its Peoria, Des Moines and Twin Star "Rockets." As a result, reclining coach seat reservations will no longer be necessary for these trains. Parlor car reservations will be continued. One exception to the new arrangement is the Peoria "Rocket" departing from Chicago at 7 p.m., which will continue to require coach seat reservations.

Coal Mine Shutdown Forces Roads to Furlough 71,000

More than 71,000 employees of coal-carrying railroads were given enforced furloughs of indefinite length this week as a result of the two-week coal-mine "work stoppage" begun on March 14 on order of John L. Lewis, president of the United Mine Workers.

The stoppage, allegedly called as a protest against the confirmation of Dr. James Boyd as chief of the Department of the Interior's Bureau of Mines, affected Pennsylvania anthracite mines and all bituminous mines east of the Mississippi river whose employees are U. M. W. members.

Its over-all effect on railroads and their employees was difficult to determine exactly, because it occurred after several weeks of declining traffic which had already resulted in furloughs for a substantial number of railroad men, particularly in shops and maintenance-of-way forces. The figure given above represents the best information available as this issue of *Railway Age* went to press on the number of men laid off as a direct result of the cessation of mining. Others, however, have been put on a shorttime basis, and a substantial number, previously furloughed, who were due to have been called back shortly, have had their layoffs extended. If the stoppage should last for more than two weeks, it is probable that additional furloughs will be necessary.

On a number of roads, furloughs were extended to clerical and operating employees as well as to shop and maintenance forces.

The largest number of furloughs was on the Pennsylvania, where 20,000 were laid off; the smallest definitely reported was on the Lehigh & New England, which furloughed 48 non-operating employees, with no reduction "as yet" in operating forces. The Chesapeake & Ohio furloughed approximately 15,000 including some men employed on its capital improvement program; the Baltimore & Ohio laid off 8,500; and the New Central System 8,630, including about 200 at St. Thomas, Ont., and some 5,000 shop workers who were refurloughed after having been back at work only four days.

Furloughs on other roads for which definite information is available were approximately as follows: Norfolk & Western, 4,500; Reading, 2,300; Southern, 2,000; Virginian, 2,000; Western Maryland, 600; Delaware, Lackawanna & Western, 500 to 700; Clinchfield, 500; Pittsburgh & West Virginia, 300; Erie, 250; Lehigh Valley, 250; Wheeling & Lake Erie, 215; Jersey Central Lines, "several hundred"; Illinois Central, 3,000; Louisville & Nashville, 1,500; Chicago, Burlington & Quincy, 400, and Chicago, Milwaukee, St. Paul & Pacific, 400.

The Delaware & Hudson and New York, Chicago & St. Louis stated that they might later furlough some employees, but had not done so when this issue went to press. A number of roads indicated that their figures might subsequently be increased.

February Employment

Railroad employment decreased 1.96 per cent—from 1,256,291 to 1,231,612—from mid-January to mid-February, and the mid-February total was 6.05 per cent below that of February, 1948, according to the preliminary summary prepared by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. The index, number, based on the 1935-39 average, was 123.7 for February, as compared with 128 for January and 131.7 for February, 1948.

February employment was below that of the previous month in all groups, the decreases ranging from 0.02 per cent in executives, officials, and staff assistants to 2.62 per cent in the maintenance of equipment and stores group. As ompared with February, 1948, employment in the executives, officials, and staff assistants group was up 0.92 per cent, but all other groups showed decreases, ranging from 3.49 per cent in the professional, clerical and general group to 8.94 per cent in the transportation (other than train, engine, and yard) group.

C. P. R. Receives Its "Last Steam Locomotive"

The Canadian Pacific this week accepted delivery from the Montreal Locomotive Works of what N. R. Crump, vice-president of operations, said might be the "last steam locomotive" ever purchased by the C. P. R., barring conditions now unforeseen. Diesel-electric locomotives, Mr. Crump said, are recognized to be the most efficient type of motive power and the

C. P. R. intends to follow the trend.

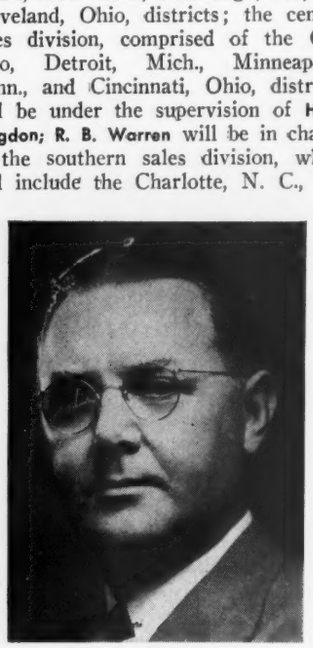
The new locomotive, designed for handling freight and passenger trains on the mountain grades between Calgary, B. C., and Revelstoke, is the last of an order for six locomotives of the Selkirk type and the 3,252nd steam locomotive to be acquired by the C. P. R. since the company started operations. It weighs 370 tons loaded and develops 89,400 lb. tractive effort with booster on 10 63-in. drivers.

SUPPLY TRADE

The **General Electric Company** has announced the following appointments: **Lyde E. Howard,** formerly assistant manager for cable sales apparatus department, to be sales manager, electric utility sales, wire and cable division, at Schenectady, N. Y.; **James F. Farnam,** formerly sales manager of the Bridgeport, Conn., wire and cable division of the construction materials department, to be sales manager, industrial and contractor sales, wire and cable division, at Bridgeport; **W. J. Delehanty,** formerly sales manager, Oakland, Cal., section of the Oakland works of the apparatus department, to be sales manager, Oakland section, of the wire and cable division, at Oakland; **Walter S. Hay,** formerly sales manager of York wire products, to be manager of transportation, federal, state and municipal sales, for the wire and cable division, at Bridgeport; **John J. Curtin,** formerly sales manager of magnet wire sales, apparatus department, to be manager, magnet wire sales, wire and cable division, at Schenectady; **G. Bryan Shanklin,** formerly manager of commercial engineering for electrical utilities of the wire and cable division, apparatus department, to be manager of commercial engineering for electric utilities for the wire and cable division of the construction materials department, at Bridgeport, and **Reginald B. McKinley,** formerly commercial engineer in the wire and cable division, apparatus department, to be manager of commercial engineering, industrial and transportation, for the wire and cable division, also at Bridgeport.

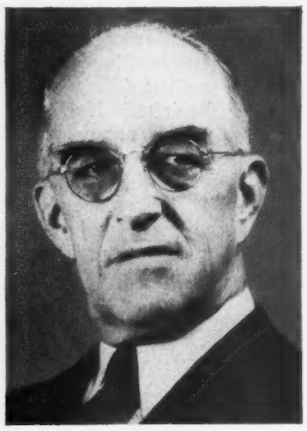
Walter J. Boll, formerly Pittsburgh, Pa., area representative for transportation sales of the **Sherwin-Williams Company,** has been appointed Gulf states zone representative for sales to the transportation and petroleum trade, to succeed the late **E. Langley Rumph.** Mr. Boll has been associated with the company since 1924.

The **Goodyear Tire & Rubber Co.,** has announced that its mechanical goods field organization will be divided into four sales divisions. **O. A. Schilling** will be in charge of the new eastern sales division, consisting of the Boston, Mass., New York, Pittsburgh, Pa., and Cleveland, Ohio, districts; the central sales division, comprised of the Chicago, Detroit, Mich., Minneapolis, Minn., and Cincinnati, Ohio, districts, will be under the supervision of **H. E. Langdon; R. B. Warren** will be in charge of the southern sales division, which will include the Charlotte, N. C., Atlanta, Ga., St. Louis, Mo., and Dallas, Texas, districts; and **R. G. Abbott,** who will continue to operate in the capacity of district manager in Los Angeles, Cal., will head the western sales division.



O. A. Schilling

Mr. Schilling joined Goodyear in 1939 as a field representative in Houston, Texas. He was appointed district manager of the Dallas district in 1941, the position he held until 1947, when he became eastern sales manager. Mr. Langdon, who has been associated with Goodyear for the past 29 years, started as a member of the mechanical goods department in Pittsburgh in 1917, transferring to the export division in Australia, two years later. In 1921 he returned to the United States as mechanical goods salesman with the company's Boston branch. He was transferred to the western division of mechanical goods sales in Chicago in 1925, and promoted to manager of the division in 1931. Mr. Warren joined Goodyear at Akron, Ohio, in 1927. In 1933 he became mechanical goods representative at Atlanta and, in 1938, transferred to New York. He served as assistant head of the Navy rubber director's office from 1942 to 1945, with the rank of lieutenant commander. Before his recent appointment, he was manager of the Pittsburgh district. Mr. Abbott joined Goodyear in 1926 and spent five years with the company's airship operations during the building of the dirigibles Akron and Macon. In 1934 he joined the mechanical goods division, first working in belting sales. Two years later he was appointed field representative at Richmond, Va., the position he held until his appointment, in 1945, as manager of the Charlotte district. He was appointed district manager at Los Angeles in 1947.



H. E. Langdon

R. B. Warren

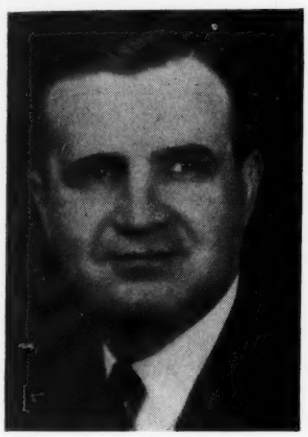
R. G. Abbott

Guy M. Bean, representative of the **American Arch Company** for over 38 years, has retired. Mr. Bean served as a machinist apprentice on the Northern Pacific and later attended the University of Minnesota and Iowa State College for two years each, studying

Additional General News Begins on Page 121

mechanical engineering. He then joined the Atchison, Topeka & Santa Fe and worked successively as a machinist, roundhouse foreman, division foreman and general roundhouse foreman. In 1908 he joined the American Locomotive Equipment Company of Chicago and, in 1910, when the American Arch Company was formed, he became its representative in Los Angeles, Cal.

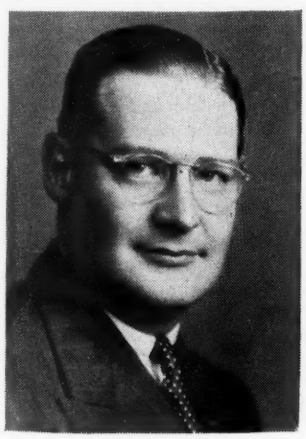
The **Pyle-National Company,** Chicago, has announced the appointment of **John F. Van Nort** as manager of the firm's western division, with headquarters at 25 Beale street, San Francisco, Cal. Mr. Van Nort was formerly sales manager



John F. Van Nort

of the Duff-Norton Manufacturing Company, Pittsburgh, Pa., and was previously associated with the Oil Well Supply Company. For two years he also operated his own coal mining business.

Louis J. Ott, advertising manager of the **Ohio Brass Company,** Mansfield, Ohio, has been appointed general sales manager. He is succeeded by **R. A. Le-**



Louis J. Ott

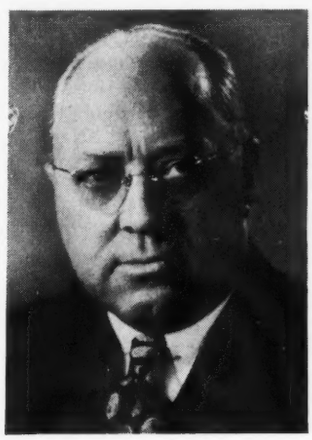
Fevre, who has served in the firm's advertising department since 1936. Mr. Ott is a graduate of Amherst college, and began his business career in the advertising department of Ohio Brass in 1928. He has been advertising manager since 1935, and during World War II he handled the company's relations with the War Production Board.

C. H. Wager, assistant manager of the traffic department of the **Shell Oil Company,** has been appointed traffic manager, to succeed **A. C. Hultgren,** who has retired after 21 years' service.

The **John S. Gray Company,** East Chicago, Ind., has been appointed distributor in the Chicago area for **The Browning Crane & Shovel Co.** as a result of the death of **Murray J. Blair,** as noted elsewhere in these columns.

The **Link-Belt Company** has moved its warehouse and district sales office in Spokane, Wash., to new and larger quarters at North 1303 Washington street, Spokane 13.

Oakite Products, Inc., has announced the appointment of **Orlin H. Clark** as representative of the railway service division in the St. Louis, Mo., area. Mr. Clark began his business career in 1918 in the car shops of the Louisville &



Orlin H. Clark

Nashville, at Louisville, Ky., and in 1924 joined the Missouri Pacific. He remained with that road for 24 years, before his recent appointment with Oakite, he was superintendent of the car department at St. Louis.

H. Neville Potter has been elected executive vice-president and general manager of the **Dearborn Chemical Company,** Toronto, Ont. Mr. Potter was appointed technical director of the company in 1945.

Arthur L. Johnson, treasurer of the **Dearborn Chemical Company,** Chicago, since 1947, has been elected secretary-treasurer and a member of the board of directors.

C. S. McIntyre, III, has been appointed service manager of the **Monroe Auto Equipment Company,** Monroe, Mich. He was formerly sales manager for the Newgren Company, in the Michigan, Indiana and Kentucky area.

George G. Raymond, Jr., sales manager of the **Lyon-Raymond Corporation,** Greene, N. Y., also has been elected a vice-president of the firm.

W. C. Keeran, whose election as vice-president in charge of manufacturing operations of the **Roth Manufacturing Company** (wholly owned subsidiary of the **Vapor Heating Corporation**) at Chicago, was reported in the *Railway Age* of March 12, was graduated from Northwestern University in 1931 with a

W. C. Keeran

master's degree in mechanical engineering. Mr. Keeran joined Roth Manufacturing in 1941 as a production engineer, and in 1946 was advanced to manager of production. In his new position he will be in charge of overall manufacturing operations of Vapor steam generators, thermostats and heating controls used by the transportation industry.

Alfred I. Stuart has been appointed head of the methods engineering department of the **Hyster Company.** He will assume full charge of methods engineering for the company's plants at Portland, Ore., Danville, Ill., and Peoria.

Charles Ringel, formerly mechanical engineer of the American Arch Company, has joined **Combustion Engineering-Superheater, Inc.**

OBITUARY

Murray J. Blair, distributor in Chicago for the Browning Crane & Shovel Co., who had been associated with that firm since 1907, died on February 14.

Charles L. Galloway, retired representative of the Hunt-Spiller Manufacturing Corporation, died on March 9.

E. J. Drewyour, of the Superheater Company, died on March 6, in Detroit, Mich. Mr. Drewyour was born on May 9, 1889. He was employed by the Mi-

chigan Central for many years before joining Superheater in June, 1923, as a service representative. He recently was appointed inspector for the company at the Lima, Ohio, plant of the Lima-Hamilton Locomotive Works.

EQUIPMENT AND SUPPLIES

Ceylon Inquiring for Coaches and Locomotives

American manufacturers have been invited to submit bids on construction of coaches and locomotives for the Ceylon Government Railway, according to a recent issue of Foreign Commerce Weekly. The required equipment was reported to consist of 99 60-ft. single coaches; 28 4-coach articulated sets; 14 2-coach articulated sets; and an initial order of at least 10 locomotives to handle freight and passenger traffic. General specifications are available from the Commercial Intelligence Branch, Department of Commerce, Washington 25, D.C., or from the Ceylon Embassy, 2523 Massachusetts ave., N.W., Washington.

FREIGHT CARS

The **Interstate** is inquiring for 50 50-ton hopper cars.

Ringling Brothers-Barnum & Bailey have ordered 10 50-ton flat cars from the Haffner-Thrall Car Company.

SIGNALING

The **Southern** has ordered two sets of radio communication equipment from the General Railway Signal Company. This equipment, to operate on a frequency of 161.49 megacycles, will furnish two fixed stations to supplement existing train communication facilities at Atlanta, Ga.

The **Canadian National** has ordered equipment from the General Railway Signal Company for installation of a unit-wire all-relay interlocking at Fraser River drawbridge in British Columbia. The control machine, to be located in the tower on the swing span of the bridge, will have an 18- by 35-in. panel equipped with 12 track indication lights and 10 levers for control of 4 switch machines, 2 torpedo-placing machines and 14 signals. The single track over the bridge is also used by the Great Northern and the British Columbia Electric. Equipment ordered includes Model 5D switch machines, electric skate machines, Type B plug-in relays, Type SA searchlight signals, impedance bonds and welded steel housings.

ORGANIZATIONS

A.S.M.E. Oil and Gas Power Conference

The 1949 Oil and Gas Power Conference sponsored by the Oil and Gas Power Division, in co-operation with the Railroad Division and the Chicago Section of the American Society of Mechanical Engineers, will be held at the Hotel Sherman, Chicago, April 25-29. The conference, in addition to the technical program, will feature a special preconference lecture program for which special registration will be required; an exhibit of Diesel engines, accessories, and instruments, and inspection trips to local Diesel plants.

Registration fee for the conference will be $2.50 to members and $5 to non-members. Registration for one day will be $1.25 and $2.50, respectively. Registration for the lecture course, April 25, will be $12 for A.S.M.E. members and $15 for non-members, payable in advance to John C. Gibb, Room 1323, Socony-Vacuum Oil Company, 26 Broadway, New York 4. The course will consist of three lectures on Cooling of Internal-Combustion Engines, Fundamentals of Air Flow in Diesel-Engine Manifolds, and Reduction of Noise in Engines. The lecturers will be B. Pinkel, Lewis Flight Propulsion Laboratory, National Advisory Committee for Aeronautics; W. W. Hagerty and L. Talbot, professors, University of Michigan, and W. P. Green, professor, Illinois Institute of Technology.

The technical program is as follows:

TUESDAY, APRIL 26

2 p.m.

Dynamic Analysis of Valve Springs, by Troels Warming, assistant professor of mechanical engineering, University of Wisconsin.

Vibration in Valve Mechanism, by Troels Warming.

Effects of Cylinder Pressure Rise on Engine Vibrations, by J. O. Hinze, "Delft" Laboratory, Royal Dutch Shell, Holland.

8 p.m.

General technical committee meeting in which members and guests may participate.

WEDNESDAY, APRIL 27

9 a.m.

Two-Cycle Dual-Fuel Diesel Engine with Automatic Fuel Conversion, by E. L. Conn, R. H. Beadle, and G. A. Schauer, research staff, Fairbanks, Morse & Co.

Diesel Locomotive Engine Cooling System, by F. H. Brehob, Locomotive Engineering Division, General Electric Company.

Ignition System for Oil Engines, by H. B. Holthouse, Holthouse Laboratory.

1:30 p.m.

Inspection trip to new Diesel locomotive repair shops of the Chicago & North Western.

THURSDAY, APRIL 28

9 a.m.

A Training Program for Railroad Personnel, by George Y. Taylor, supervisor, education department, Locomotive Division, American Locomotive Company.

Diesel-Engine Maintenance Instruction, Alco V-Type Engine, by S. E. Lodge, education department, Locomotive Division, American Locomotive Company.

1:15 p.m.

Inspection trip to La Grange, Ill., plant of Electro-Motive Division, General Motors Corporation.

2 p.m.

Inspection trip to submarine containing four 1,600-hp. Fairbanks-Morse Diesel engines.

FRIDAY, APRIL 29

All-day trip by train to Fairbanks-Morse shops, Beloit, Wis.

The **Mid-West Shippers Advisory Board** will hold its eighty-sixth regular meeting at the LaSalle Hotel, Chicago, April 13-14.

Practical and economic considerations in application of roller bearings to freight equipment were discussed by Dr. Oscar J. Horger, chief engineer, railway division, Timken Roller Bearing Company, at the March 14 meeting of the **Car Foremen's Association of Chicago.** Dr. Horger cited results of extensive service tests on the Union Pacific and the Chesapeake & Ohio, and presented slides and motion pictures of these and other installations.

E. B. Saltmer of the Baltimore & Ohio has been elected president of the **Philadelphia Passenger Association.** Other officers elected are: First vice-president, A. E. Rohmer, Great Northern; second vice-president, R. E. Dunn, Pennsylvania; secretary, G. D. Marshall, Canadian National; treasurer, R. L. Roberts, Missouri Pacific, and historian, H. R. Scott, Pennsylvania. L. J. McKernan, Union Pacific, retiring president, has been named to the board of governors.

The **Indianapolis Car Inspection Association** will hold its next regular business meeting on April 4, at 7 p.m., in the assembly room of the Big Four building, Indianapolis, Ind.

E. K. Bloss, mechanical engineer, Boston & Maine, will speak on "Cars and Diesel Operation" at the next meeting of the **Eastern Car Foremen's Association,** April 8, at 8 p.m., at 29 West 39th street, New York.

The next meeting of the **Car Foremen's Association of Chicago** will be held on April 11, at 8 p.m., in the Hotel LaSalle, Chicago. K. L. Selby chief engineer, and G. J. Chegin, engineer, National Malleable & Steel Castings Co., will present a paper entitled "A.A.R. Tightlock Coupler and Proposed Type 'F' Interlocking Coupler." The couplers will be illustrated by slides.

The **New England Railroad Club,** will hold its dinner meeting on April 12, at 6:30 p.m., in the Hotel Vendome, Boston, Mass. C. I. Clugh, works manager, Pennsylvania, Altoona, Pa., will be the principal speaker.

The **Railfan Society** will hold its next meeting on April 19, at 8 p.m., at 20 West 40th street, New York. Frank H. Simon, trainmaster of the New York City Transit System, will address the meeting. Movies also will be shown

Railroad Enthusiasts, Inc., New York division, will hold its next meeting on

March 23, at 7:45 p.m., in room 5928, Grand Central Terminal Lloyd W. Baker, freight traffic manager of the Baltimore & Ohio, will talk on "The B. & O.'s Sentinel Service." The B. & O. also will present a movie, "Meeting the Challenge."

CONSTRUCTION

Atchison, Topeka & Santa Fe.—This road has awarded a contract to the Ellington Miller Company, Chicago, for erection of a 50-ft. by 260-ft. Diesel servicing shop building and other Diesel facilities at Corwith yard, Chicago.

Bangor & Aroostook.—This road has authorized construction of two heating boilers at Derby, Me., at a probable cost of $51,200.

Gulf, Mobile & Ohio—Division 4 of the Interstate Commerce Commission has authorized this road to construct an 0.5-mi. line from Federal, Ill., to a connection with the tracks of the Alton Box Board Company. The Alton plant is now served exclusively by the Illinois Terminal which opposed the Gulf's application, denial of which was recommended in Examiner P. C. Allus' proposed report in the case (see *Railway Age* of August 28, 1948, page 66). In approving the application the commission stated that the proposed line would serve, in addition to the box board company, a new industrial area owned by a Gulf subsidiary, the development of which is expected to produce between 1,500 and 2,000 carloads of traffic annually.

Monongahela—This road has applied to the commission for authority to construct an extension of its Paw Paw branch from Grant Town, W. Va. to a point near the headwaters of Sugar Run, approximately 8.32 mi. to serve a mining operation which the Jameson Coal & Coke Co. of Greensburg, Pa. proposes to open in this area.

Northeast Oklahoma.—This road plans to lay this year some 1,200 net tons of 90-lb. rail now on order with the Colorado Fuel & Iron Corporation, to replace 70-lb. and 75-lb. rail. Bars for the rail are to be furnished by the Rail Joint Company. The work is to cost approximately $120,000 and will be completed by the road's own forces. Plans are also being developed for diversion and grade reduction projects at Columbus, Kan., which would cost $60,000 if authorized. All work would be accomplished by company forces.

Northern Pacific.—This road has awarded contracts to J. S. Sweitzer & Son, Inc., St. Paul, Minn., for construction of a combination passenger and freight station at Perham, Minn., and to the Hitz Construction Company, Billings, Mont., for a similar structure at Glen Ullin, N. D. Both buildings are scheduled for completion by October 1. The Perham station will be 30 ft. by 83 ft., of concrete and brick construction with an adjoining high-level concrete platform 12 ft. by 75 ft. for l.c.l. freight. The station at Glen Ullin is to be 24 ft. by 80 ft., of brick construction with concrete floors. The N. P. is also constructing two propane gas storage and bottling facilities, one at Seattle, Wash. (jointly with the Great Northern) and a second at St. Paul, Minn., to provide bottled gas for engine-driven air-conditioning units and for track welding and switch heaters.

FINANCIAL

Chesapeake & Ohio.—*Sells National Carloading Interest.*—This road has sold its 65 per cent interest in the National Carloading Corporation to the Erie. The Erie, which held 35 per cent of National Carloading's stock, is now sole owner of the freight forwarding concern. The terms of the transaction have not been made public.

City of New Orleans. — *Union Passenger Terminal Bonds.*—Division 4 of the Interstate Commerce Commission has authorized this city to issue $15,000,000 of bonds to finance in part the construction there of the proposed new union passenger terminal and the elimination of grade crossings, and to provide a loan of $600,000 to the New Orleans Terminal Company (see *Railway Age* of November 29, 1947, page 42, and April 17, 1948, page 67). The bond issue now approved by the commission will be in lieu of a previously-approved issue which was not sold because of litigation with respect to the terminal project. The litigation was finally disposed of in favor of the city. The bonds will be dated January 1 and will mature serially in varying amounts on that date of each year from 1953 to 1998, inclusive. They will bear interest rates ranging from 4 per cent for the years from 1953 to 1956, inclusive, to 2 per cent from 1988 to final maturity in 1998. The commission's report approved a selling price of $15,042,000 for the issue—the bid of R. S. Hecht & Co. and 24 associates, which will make the average annual interest cost approximately 2.57 per cent.

Long Island.—*Trustees Appointed.*—Judge Harold M. Kennedy of the United States District Court, Brooklyn, N. Y., on March 14 named three trustees to run this road during its financial reorganization. The appointees, who must be confirmed by the Interstate Commerce Commission, are David E. Smucker, present general manager of the Long Island; Hunter Delatour, a member of the executive committee of the New York State Bar Association; and James D. Saver, who last year resigned as first assistant in the Criminal Division of the Department of Justice to enter private law practice.

Macon, Dublin & Savannah. — *Bond Modification.*—Division 4 of the Interstate Commerce Commission has authorized this road to carry out its plan to set back for 25 years, from January 1, 1947, to January 1, 1972, the maturity date of its $1,733,000 issue of first-mortgage, 5 per cent bonds. The commission's report was the first to authorize consummation of a financial readjustment plan under provisions of the so-called "Mahaffie Act," which is now section 20b of the Interstate Commerce Act. In it the commission made the required finding to the effect that the extension plan had been assented to by holders of at least 75 per cent of the aggregate principal amount of the bonds affected. This finding was based on certified results of balloting which showed that there were no votes against the plan while assents were received from holders of 86.08 per cent of the principal amount of the bonds considered outstanding for purposes of the voting. A previous commission report had approved the plan and authorized its submission to the bondholders (see *Railway Age* of January 1, page 52).

Norfolk Southern.—*New Director.*—Edward S. Syren of Philadelphia, Pa., has been elected a member of this road's board of directors to succeed Morris L. Forer.

Pennsylvania-Wabash.—*Control of D. T. & I.*—The Interstate Commerce Commission has granted the New York Central, the New York, Chicago & St. Louis, and the Erie permission to intervene in the application of these roads for authority to acquire control of the Detroit, Toledo & Ironton from the Pennroad Corporation (see *Railway Age* of January 29, page 46). In its petition for intervention, the N.Y.C. stated that it serves substantially the same territory as the P.R.R., Wabash and D.T. & I. and connects with the Springfield Suburban, control of which is also sought by the P.R.R. The petition went on to assert that the Central would be adversely affected by a granting of the applications, and to argue, that the public interest demands that both the D. T. & I. and the S. S. be neutrally owned and operated and wholly independent of any other road.

The Nickel Plate stated that it participates in the movement of a substantial volume of freight traffic originating or terminating at industries served by the D. T. & L. and the S. S. in competition with the applicants. Also, it is convinced a condition requiring

continuance of existing interchange points, through routes and traffic arrangements would not preclude the applicants from directing to their own lines of much of the D. T. & I. and S. S. traffic which the Nickel Plate has enjoyed.

The Erie stated that the S. S. now operates independently in a neutral and impartial manner with respect to interchange traffic, and it is in the public interest that such operation continue. It went on to express its desire to acquire on equal terms with the P. R. R an equal share in the control of the S. S.

A previous order of the commission authorized the Baltimore & Ohio to intervene in the proceeding, which has been assigned for public hearing at Washington, D. C., on March 22.

New Securities

Application has been filed with the Interstate Commerce Commission by:

Illinois Central.—To assume liability for $6,360,000 series CC equipment trust certificates to finance in part 1,000 50-ton steel hopper cars at $4,422 each; 750 50-ton steel hopper cars at $5,600 each, and 100 70-ton steel hopper cars at $6,560 each. The General American Transportation Company will build this equipment at an estimated total cost of $8,527,750. The certificates would be dated April 1, and would be sold on competitive bids, which would determine whether the issue would mature over a 10- or 15-year period.

Division 4 of the I.C.C. has **authorized:**

Chesapeake & Ohio.—To assume liability for $5,150,000 of equipment trust certificates to finance in part the acquisition of 875 freight-train cars and 10 steam locomotives at an estimated total cost of $6,507,838 (see *Railway Age* of February 26, page 58). The certificates will be dated March 15 and will mature in 10 annual installments of $515,000 each, beginning March 15, 1950. The commission's report approved a selling price of 99.562 per cent for the issue with a 2⅛ per cent interest rate—the bid of Halsey, Stuart & Co. and 14 associates, which will make the average annual interest cost approximately 2.23 per cent. The certificates were reoffered to the public at prices yielding from 1.35 to 2.4 per cent, according to maturity.

Delaware & Hudson. — To assume liability for $4,800,000 of equipment trust certificates to finance in part the acquisition of 29 Diesel-electric locomotives and 600 freight cars at an estimated cost of $6,492,925 (see *Railway Age* of February 12, page 68). The certificates will be dated March 1 and will mature in 20 semiannually installments of $240,000, beginning September 1, 1949. The commission's report approved a selling price of 99.284 per cent for the issue with a 2⅛ per cent interest rate—the bid of Lehman Brothers and White, Weld & Co., which will make the average annual interest cost approximately 2.28 per cent. The certificates were reoffered to the public at prices yielding from 1.35 to 2.45 per cent, according to maturity.

Northern Pacific.—To assume liability for $6,000,000 of equipment trust certificates to finance in part two Diesel-electric locomotives, 1,050 freight cars and two passenger cars at an estimated total cost of $7,970,576 (see *Railway Age* of February 12, page 68). The certificates will be dated March 15 and will mature in 15 annual installments of $400,000 each, beginning March 15, 1950. The commission's report approved a selling price of 99.446 per cent with a 2⅜ per cent interest rate—the bid of Harriman, Ripley & Co., which will make the average annual interest cost approximately 2.47 per cent. The certificates were reoffered to the public at prices yielding from 1.4 to 2.625 per cent, according to maturity.

Average Prices Stocks and Bonds

	Mar. 15	Last week	Last year
Average price of 20 representative railway stocks	39.04	39.73	46.31
Average price of 20 representative railway bonds	87.90	87.60	85.66

Dividends Declared

Norwich & Worcester.—8% preferred, $2.00, quarterly, payable April to holders of record March 15.

Savannah & Atlanta.—5% preferred, $1.25, quarterly, payable April 1 to holders of record March 9.

RAILWAY OFFICERS

EXECUTIVE

W. W. Byam, whose appointment as assistant to vice-president and general manager—labor relations of the Grand Trunk Western at Detroit, Mich., was reported in the *Railway Age* of February 19, first entered service with that

W. W. Byam

road in 1922 as a clerk in the motive power department at Battle Creek, Mich. In 1941 he became wage examiner at Detroit, and four years later was promoted to supervisor of wages at that point. Mr. Byam held the latter position at the time of his recent appointment.

William C. Baker, assistant vice-president, operation and maintenance, of the Baltimore & Ohio at Baltimore, Md., has been appointed vice-president, operation and maintenance, succeeding **Charles W. Van Horn,** who has retired after a 52-year railroad career. Mr. Baker was born at Baltimore on February 18, 1891, and entered the service

William C. Baker

of the B. & O. in April, 1906, as a clerk at Baltimore. Six years later he became secretary to the general superintendent at Baltimore and was named assistant trainmaster at Cumberland, Md., on May 28, 1917, becoming trainmaster at Connellsville, Pa., on February 1, 1924. Mr. Baker was advanced to assistant superintendent of the Baltimore division in 1926, transferring to Washington, Ind., in 1929. He became

Charles W. Van Horn

superintendent of the St. Louis division on November 1, 1929, and of the consolidated St. Louis-Ohio division two and one-half years later. He transferred to the Akron-Chicago division at Akron, Ohio, on November 1, 1936, and was appointed general superintendent of transportation at Baltimore on March 1, 1942, becoming general manager of the Chicago Terminal region at Chicago on June 1, 1946. Mr. Baker re-

News Department continued on next left-hand page

A unit of POWER

THIS LOCOMOTIVE is a unit of power. It illustrates a significant fact. Where the amount of power that can be packed into a single unit is important — where you want 6000, 8000, even 10,000 horsepower in one engine — the steam locomotive is unchallenged.

We build such locomotives — steam locomotives like this that have developed 8000 horsepower and can do more. We will continue to do so. They are fine pieces of machinery. Modern in every respect, they are establishing remarkable records for economy, reliability and low maintenance.

Don't sell these steam giants short. They have their place — and in their place are unsurpassed.

LIMA HAMILTON CORPORATION

DIVISIONS: *Lima, Ohio* — Lima Locomotive Works Division; Lima Shovel and Crane Division. *Hamilton, Ohio* — Hooven, Owens, Rentschler Co.; Niles Tool Works Co. *Middletown, Ohio* — The United Welding Co.

PRINCIPAL PRODUCTS: Locomotives; Cranes and shovels; Niles heavy machine tools; Hamilton diesel and steam engines; Hamilton heavy metal stamping presses; Hamilton-Kruse automatic can-making machinery; Special heavy machinery; Heavy iron castings; Weldments.

turned to Baltimore as assistant vice-president on June 1, 1948.

Mr. Van Horn was born at Clarksburg, W. Va., on January 17, 1879, attended the public schools, and spent two years at Salem (W. Va.) College. He entered the service of the B. & O. in 1897 as postal clerk, and four years later became a clerk in the freight office at Fairmont, W. Va. Mr. Van Horn served successively as agent at Byron, W. Va., Flemington and Clarksburg; freight agent and general yardmaster at Clarksburg; chief clerk to the general superintendent at Baltimore; trainmaster on the Monongah division at Clarksburg and on the Chicago division at Garrett, Ind.; terminal trainmaster at Chicago Junction (now Willard), Ohio; and assistant superintendent of the Pittsburgh division at Glenwood, Pa. On January 10, 1917, Mr. Van Horn became superintendent of the New Castle division at New Castle, Pa., subsequently transferring to the Monongah division at Grafton, and to the Cumberland division at Cumberland, Md. He became general superintendent of the Maryland district at Baltimore on June 1, 1923, and was appointed general superintendent of transportation on January 20, 1926. Mr. Van Horn was named general manager of the Western lines at Cincinnati, Ohio, on June 15, 1929, returning to Baltimore three years later as general manager of the Eastern lines. On December 18, 1940 he was elected vice-president, operation and maintenance, and to this, on June 1, 1946, was added the title of vice-president of the B. & O. Chicago Terminal.

J. R. Pritchard, secretary of the Norfolk Southern at Norfolk, Va., has been elected also vice-president.

Harry C. Oliver, assistant vice-president, traffic, of the Pennsylvania at New York, has been granted a leave of absence effective March 16, to become president of the Harborside Warehouse Company, Jersey City, N. J., succeeding **George LeBoutillier,** who will become chairman of the board.

J. W. Mahaney, traffic manager of the St. Louis-San Francisco at Memphis, Tenn., has been promoted to the newly created position of assistant to the vice-president at St. Louis, Mo., with supervision over the industrial and agricultural development departments.

OPERATING

A. O. Lalonde, whose appointment as superintendent of the Levis division of the Canadian National at Levis, Que., was reported in the *Railway Age* of February 26, succeeds **J. A. O. Boivin,** who has been appointed superintendent of the Montreal terminals at St. Jerome division at Montreal, Que. Mr. Lalonde was born at Moose Creek, Ont., and entered the service of the C. N. R. as a brakeman at Capreol, Ont., on December 1, 1915, becoming a freight conductor four years later. He was appointed trainmaster at Montreal on March 8, 1946, and became assistant superintendent of the Cochrane division in February, 1947, which position he held until his recent appointment.

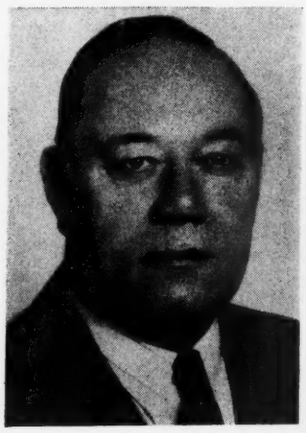
A. O. Lalonde

W. H. Kyle, whose appointment as general manager of the Central region of the Canadian National at Toronto, Ont., was reported in the *Railway Age* of February 26, entered railroad service in May, 1924, as chairman in the office of the general superintendent of the C. N. R. at Montreal. Mr. Kyle was appointed instrumentman in 1926; assistant engineer in 1929; division engineer, transportation department, in March, 1939; acting superintendent Montreal terminals in October, 1942; superintendent Montreal terminals and St. Jerome division in July, 1943; and general superintendent of the Northern Ontario district at North Bay, Ont., in March, 1946. Mr. Kyle was transferred in 1948 to the Montreal district, where he remained until his recent appointment.

W. H. Kyle

Frank T. Halligan, superintendent of organization of the Railway Express Agency, has been appointed general superintendent of organization, with headquarters as before at New York, in which position he becomes chairman of the Standard Practices Committee. **Benjamin F. Weedon,** superintendent of the Buffalo-Erie division at Buffalo, N. Y., succeeds Mr. Halligan as superintendent of organization.

W. J. Hotrum, whose appointment as general superintendent of the Northern Ontario district of the Canadian National at North Bay, Ont., was reported in the *Railway Age* of February 26, was born at Hamilton, Ont., on April 27, 1891, and entered railroad service on February 2, 1905, as messenger in the local freight office of the Grand Trunk (C. N. R.) at Hamilton.



W. J. Hotrum

After serving in various clerical capacities and as district agent of the Southern Ontario district, district supervisor of car service and general agent at Toronto, successively, Mr. Hotrum was appointed terminal superintendent. On June 17, 1942, he became division superintendent of the C. N. R. at Capreol, Ont., transferring to Ottawa, Ont., in March, 1946, and to the Montreal terminals and St. Jerome division at Montreal in April, 1948.

H. F. Milligan, whose retirement as superintendent of the New York Central's Big Four lines at Mattoon, Ill., was reported in the *Railway Age* of February 26, was born on September 3, 1882, at Clarks Hill, Ind., where he attended high school. He entered railroad service on July 8, 1902, as a telegraph operator for the Big Four, and in March, 1907, became train dispatcher at Kankakee, Ill. In September, 1914, he was advanced to chief dispatcher at Cleveland, Ohio, and, in February, 1916, to acting trainmaster of the Peoria & Eastern (part of N. Y. C.) at Indianapolis, Ind. He returned to the Big Four as assistant trainmaster at Galion, Ohio, in 1916, and in June, 1917, he was appointed general agent for the American Railway Association (now Association of American Railroads) at Fort Benja-

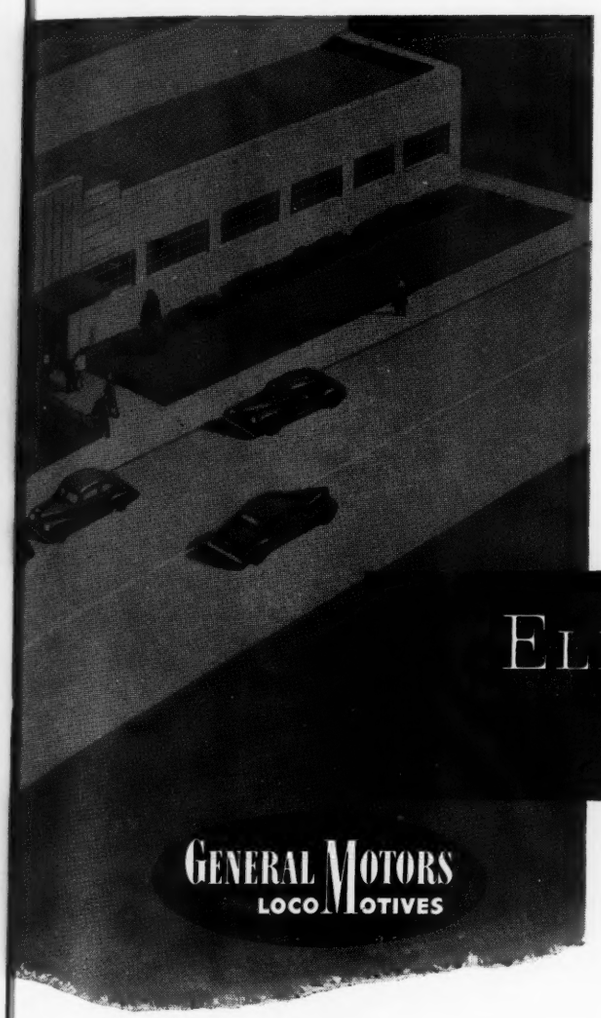
News Department continued on second left-hand page

...up" the Reserve

THE new Electro-Motive Parts Center now in full operation at La Grange, greatly augments Electro-Motive's already far-flung organization of parts warehouses, branch repair shops and highly skilled service and parts advisors.

We have "beefed up" the reserve to increase our facilities for providing an adequate supply of genuine General Motors Diesel locomotive parts within quick and easy reach for any necessary replacement. Parts Department floor space is doubled and the finest, most modern equipment for parts storage, packaging and shipment is provided to keep a long step ahead of the rapidly expanding growth of General Motors Diesel power on American railroads.

We invite all railroad men concerned with the operation or supply of motive power to inspect the new Electro-Motive Parts Center.



ELECTRO-MOTIVE
DIVISION OF GENERAL MOTORS · LA GRANGE, ILL.
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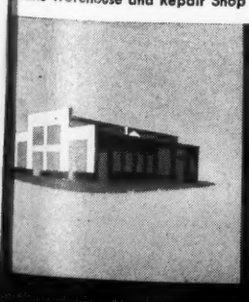
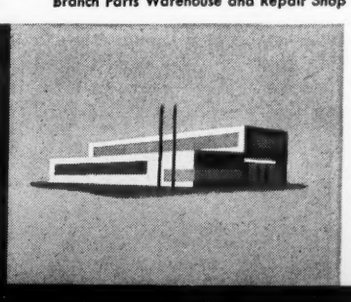
EMERYVILLE, CALIFORNIA
Parts Warehouse and Repair Shop



LOS ANGELES, CALIFORNIA
Branch Parts Warehouse and Repair Shop



min Harrison, Indianapolis. In December, 1917, Mr. Milligan was appointed assistant superintendent of the Big Four at Bellefontaine, Ohio, and later served successively as superintendent at Cincinnati, Ohio, Mt. Carmel, Ill., and Mattoon, Ill. In June, 1933, Mr. Milligan was appointed superintendent of the Illinois division with headquarters remaining at Mattoon.

H. L. Exley, division engineer of the Baltimore division—West End of the Baltimore & Ohio, has been promoted to assistant to general manager, with headquarters as before at Baltimore, Md.

George A. Kirley, general manager of the Boston & Albany at Boston, Mass., whose retirement was noted in the *Railway Age* of March 5, was born at Fairfield, Vt., on August 31, 1880. He attended Brigham Academy, Bakersfield, Vt., and the University of Michigan, receiving the degree of bachelor of science in civil engineering from the latter in 1907. Mr. Kirley entered rail-

George A. Kirley

road service on July 15, 1907, as draftsman in the signal department of the New York Central at New York. He went with the B. & A. on May 15, 1909, as draftsman, and was promoted to chief draftsman in February, 1912; assistant engineer on May 1, 1915; signal engineer on April 1, 1918; and chief engineer, engineering and maintenance of way department, on January 1, 1927. Mr. Kirley held the latter position until June 1, 1941, when he became general manager.

Clyde W. Pace, general superintendent of transportation of the Missouri Pacific Lines at St. Louis, Mo., has been appointed general manager of the Western district, with the same headquarters. He has been succeeded by **L. A. Gregory,** assistant general manager of the company's lines in Texas and Louisiana, with headquarters at Palestine, Tex. **Charles A. Fink,** assistant general superintendent of transportation at St. Louis, has been promoted to general manager of the Southern district, with headquarters remaining at St. Louis. **T. E. Fox,** who formerly served in the transportation and executive departments, has been appointed assistant to the general superintendent of transportation at St. Louis.

Henry F. Martin, whose appointment as superintendent of the Port Tampa terminals of the Atlantic Coast Line at Port Tampa, Fla., was reported in the *Railway Age of* February 19, was born at Island Grove, Fla., and entered the service of the A. C. L. on February 6, 1928, as stenographer at Jacksonville, Fla. Mr. Martin served as chief clerk

Henry F. Martin

to general agent and traffic freight agent at Jacksonville before becoming commercial agent at Perry, Fla., on September 15, 1939. He was transferred to Orlando, Fla., on December 1, 1942, and to Clewiston, Fla., on October 15, 1946. Mr. Martin served as acting superintendent of mine service at Mulberry, Fla., from September 21, 1948, until his recent appointment.

FINANCIAL, LEGAL & ACCOUNTING

E. A. Kaier, general attorney of the Pennsylvania at Philadelphia, Pa., who has been serving as director of public relations, has resumed his duties as general attorney.

TRAFFIC

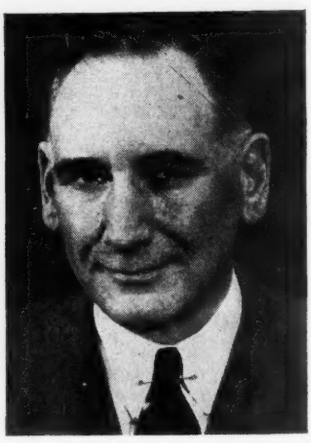
E. B. Wood, division freight agent of the Chicago, Rock Island & Pacific at El Dorado, Ark., has been appointed assistant general freight agent at Memphis, Tenn. **C. Rawls** has been appointed to succeed Mr. Wood.

Ben G. Spears, whose appointment as assistant freight traffic manager (sales and service) of the Minneapolis, St. Paul & Sault Ste. Marie at Minneapolis, Minn., was reported in the *Railway Age* of February 26, was born in that city on January 6, 1906. He entered railroad service in 1920 with the Soo Line, and subsequently served in various clerical positions in his home town

Ben G. Spears

until 1938, when he became general agent at Spokane, Wash. In January, 1939, he was transferred to Seattle, Wash., and in July, 1941, was appointed district freight agent at Duluth, Minn. Mr. Spears was advanced to assistant general freight agent at the latter point in January, 1945, and promoted to general freight agent at Minneapolis in June, 1946, which position he held at the time of his recent appointment.

S. S. Hosp, whose appointment as freight traffic manager, sales and service, of the Norfolk & Western at Roanoke, Va., was reported in the *Railway Age* of March 5, entered the service of the N. & W. in 1920 as commercial agent at Minneapolis, Minn.,



S. S. Hosp

after having spent eight years with other railroads. Mr. Hosp became general agent of the N. & W. at Pittsburgh, Pa., in 1934, and general freight agent at Roanoke in 1939. He was advanced to assistant freight traffic manager in 1945, which position he held until his recent appointment.

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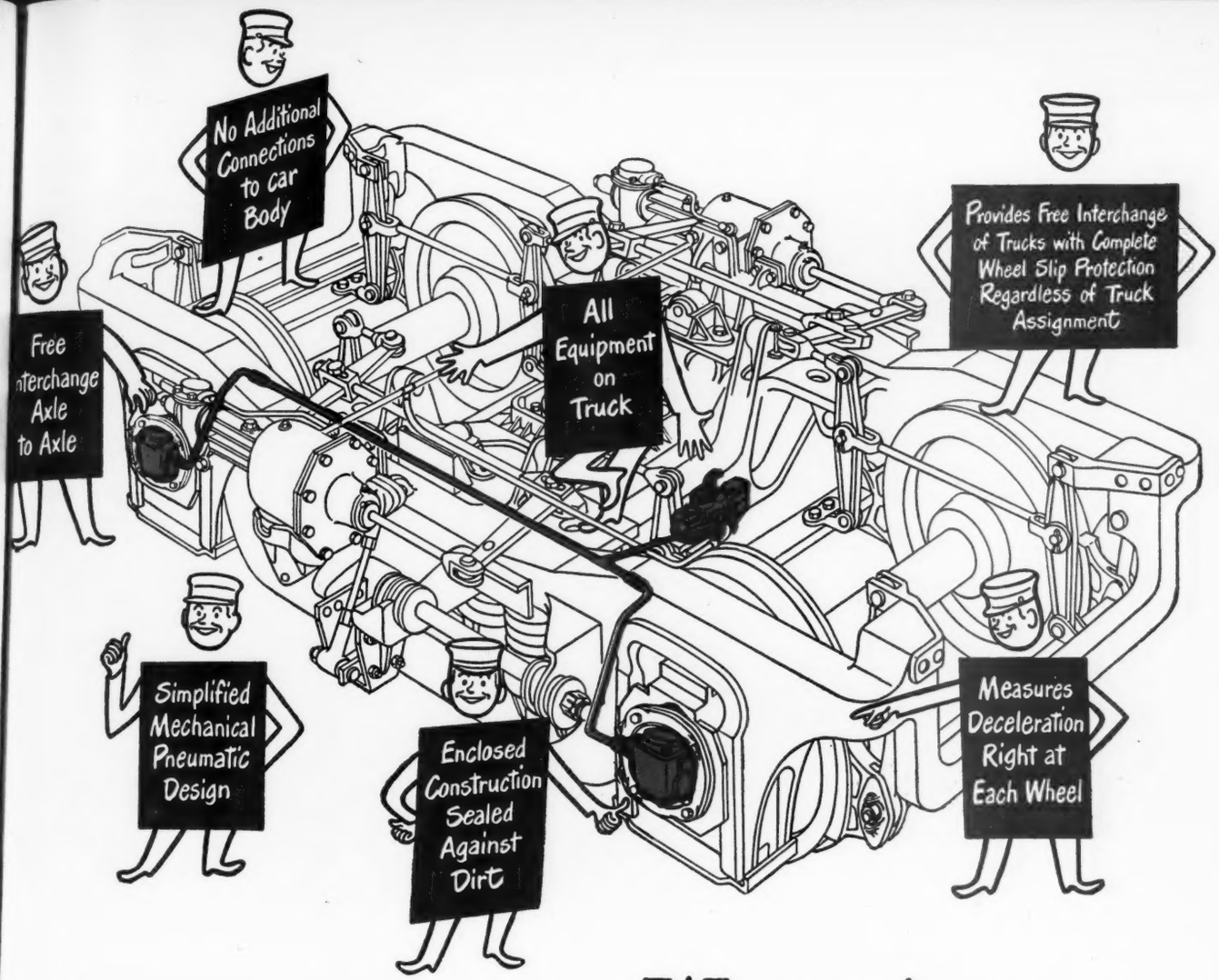
No Additional Connections to car Body
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Simplified Mechanical Pneumatic Design
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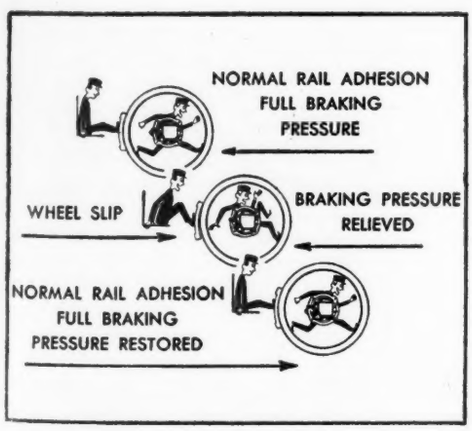
Measures Deceleration Right at Each Wheel

the figures tell the story of Westinghouse

AP DECELOSTAT ADVANTAGES



Millions of miles of travel without sliding a wheel have been reported by railroads with Westinghouse AP Mechanical-Pneumatic Decelostat installations. The dollar value of this performance, in terms of reduced wear on equipment and maintenance of maximum braking efficiency under all rail conditions, makes it an impressive return on investment.

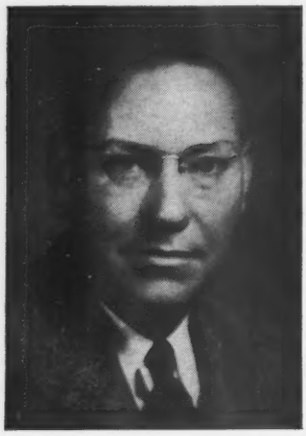
As all equipment is on the truck, and no additional connections to car body, free assignment of trucks is possible. Enclosed, dirt-sealed construction enhances integrity of operation. Simplified mechanical-pneumatic design acts positively—relieves brake pressure at the first hint of wheel slip.

Ask for Bulletin DL2461-1. It gives the complete story.

Westinghouse Air Brake Co.

WILMERDING, PA.

C. W. Nickless, whose appointment as general freight agent of the Norfolk & Western at Roanoke, Va., was reported in the *Railway Age* of March 5, entered the service of the N. & W. as a stenographer in the Washington, D. C.,



C. W. Nickless

passenger office in 1926. Mr. Nickless later served as traveling passenger agent at Memphis, Tenn., and St. Louis, Mo., and as general agent at Washington and Pittsburgh, Pa., successively.

F. K. Prosser, whose appointment as general coal traffic manager of the Norfolk & Western at Roanoke, Va., was reported in the *Railway Age* of March 5, was graduated from Virginia

F. K. Prosser

Polytechnic Institute and worked for 10 years as a construction and mining engineer for coal companies and as a special engineer for industrial concerns, before joining the N. & W. on the road's mine rating commission. After nine years with that commission, Mr. Prosser was appointed manager of the road's coal department on June 1, 1931. He was promoted to coal traffic manager in April, 1934, which position he held until his recent appointment.

R. F. Dickson, whose appointment as assistant freight traffic manager of the Norfolk & Western at Roanoke, Va., was reported in the *Railway Age* of March 5, entered the service of the N. & W. as a stenographer in the Chattanooga, Tenn., office in 1915. Mr. Dickson was subsequently promoted to

R. F. Dickson

traveling freight agent at Birmingham, Ala., and later was commercial agent at Memphis, Tenn., and Birmingham. He was appointed general agent at Pittsburgh, Pa., in 1939 and promoted to general freight agent at Roanoke in 1945, holding the latter position until his recent appointment.

Alvin T. Peterson, whose promotion to assistant freight traffic manager of the Minneapolis, St. Paul & Sault Ste.

Alvin T. Peterson

Marie at Chicago, was reported in the *Railway Age* of February 26, was born July 30, 1895, at Kasson, Minn. He entered railroad service with the Soo Line in 1916 as cashier at Crosby, N. D., and, from 1918 to 1921, served as agent at Paynesville, Minn. He was subsequently tranferred to Whitetail, Mont., and was appointed traveling freight agent at Minot, N. D., in 1926. In September, 1937, Mr. Peterson was advanced to general agent at the latter point, and in January, 1944, became division freight agent at Minneapolis, Minn. Mr. Peterson was appointed assistant general freight agent at Minneapolis in August, 1947, which position he held at the time of his recent promotion.

Melvin T. Power, whose appointment as general freight agent of the Norfolk Southern at Norfolk, Va., was reported in the *Railway Age* of February 26, was born August 2, 1910, at Norfolk, where he attended elementary and high schools. Mr. Power entered railroad service on October 19, 1926, with the Seaboard Air Line at Norfolk and,

Melvin T. Power

after serving in various positions in the traffic department, was appointed executive rate clerk on May 6, 1943. On January 1, 1944, he became commerce agent, in which capacity he worked on freight rate adjustments before the Interstate Commerce Commission and regulatory bodies of Southern states.

MECHANICAL

Kenneth J. Kerlin has been appointed fuel engineer of the Illinois Central, with headquarters at Fulton, Ky., succeeding **E. L. Browne,** who has been appointed traveling engineer at Memphis, Tenn. Mr. Brown succeeds **J. M. Ryan,** who has been assigned to other duties at his own request.

C. G. Mahoney, general foreman of the Elgin, Joliet & Eastern at Gary, Ind., has been appointed master mechanic at that point, succeeding **W. M. Martin,** who has resigned.

O. J. Protz, whose retirement as superintendent of motive power and machinery for the Chicago, St. Paul, Minneapolis & Omaha (part of the Chicago & North Western System) at St. Paul, Minn., was reported in the

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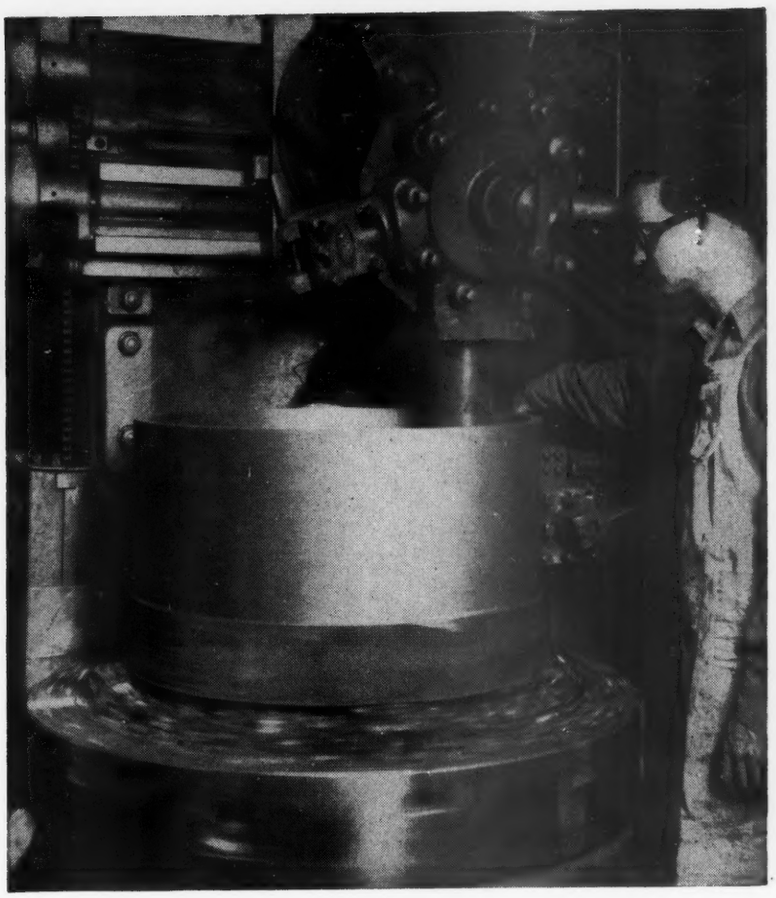
HSGI



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QUITE apart from its superior wearability, there are other reasons why Hunt-Spiller Gun Iron is the preponderant choice of American railroads. One of the most important of these is *machine-ability*. It is a fact that HSGI castings take less time to machine because there is less metal to remove. The dense, homogeneous structure of HSGI permits making castings close to finished sizes. This finer structure also results in a better, smoother finish.

For many years Hunt-Spiller Gun Iron has been used for vital parts in most American steam locomotives. And now it is gaining continued acceptance as *the* material for better diesel cylinder liners.

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Valve Bushings	Floating Rod Bushings	
Valve Packing Rings	Light Weight Valves	Cylinder Snap Rings
Valve Bull Rings	Cylinder Liners and Pistons for Diesel Service	Valve Rings, All Shapes

Railway Age of March 5, was born at Winona, Minn., where he attended local public schools. He entered railroad service in 1903 as an apprentice with the North Western in his home town, and later served as a machinist until 1914, when he became roundhouse foreman at Wyeville, Wis. In 1917 he was transferred to Huron, S. D., and, from 1920 to 1928, served as general foreman successively at Belle Plaine, Iowa, Huron, S. D., Missouri Valley, Iowa, and Chicago. He subsequently returned to Winona as master mechanic, and in 1929 became master mechanic at Escanaba, Mich. Mr. Protz was appointed assistant master mechanic at Clinton, Iowa, in September, 1931, and promoted to superintendent of locomotive and car shops at Chicago in September, 1939. He was advanced to superintendent of motive power at Chicago in October, 1943, and joined the C. St. P. M. & O. as superintendent of motive power and machinery at St. Paul in November, 1944.

ENGINEERING & SIGNALING

Joseph Watkins Hale, whose appointment as assistant to chief engineer of the Atlantic Coast Line at Wilmington, N. C., was reported in the *Railway Age* of February 5, was born on December 24, 1896, at Louisburg, N. C., and attended the University of North Carolina. Mr. Hale entered railroad service March 26, 1923, with the A. C. L. as resident engineer at Ridgeland,

Joseph Watkins Hale

S. C., and became junior engineer at Rocky Mount, N. C., on December 16, 1924. He was appointed assistant engineer at Rocky Mount on June 1, 1925; assistant engineer of reproduction costs at Wilmington on July 1, 1928; office engineer at Savannah, Ga., on June 1, 1933; division engineer at Savannah on February 1, 1939; and roadmaster at Dillon, S. C., on October 1, 1940. Mr. Hale served with the 703rd Railway Grand Division during World War II.

R. L. Groover, chief engineer of the Atlantic Coast Line at Wilmington, N. C., has been appointed also chief engineer of the Winston-Salem Southbound.

Frederick L. Thompson, assistant division engineer of the Ohio division of the Baltimore & Ohio, with headquarters at Cincinnati, Ohio, has been promoted to division engineer at Wheeling, W. Va., to succeed **Frank W. Bailey,** who has been transferred to the Baltimore division, at Baltimore, Md., where he replaces **H. L. Exley,** who has been promoted to assistant to general manager at Baltimore. **A. O. Huber,** assistant engineer-office, in the office of the engineer maintenance of way of the Western region, Cincinnati, succeeds Mr. Thompson as assistant division engineer of the Ohio division.

D. A. Leisher, master carpenter, Maryland division, Pennsylvania, at Baltimore, Md., has been appointed assistant engineer in charge of the drafting room, Maryland division, at Baltimore, succeeding **Fred Evans,** who will retire on April 1.

PURCHASES & STORES

R. W. Otte, assistant purchasing agent of the Chicago Great Western at Chicago, has been appointed acting purchasing agent at that point, succeeding **A. C. Simmons,** who has been granted an indefinite leave of absence on account of ill health.

SPECIAL

M. A. Nugent, assistant division superintendent of the Southern Pacific at Los Angeles, Cal., has been promoted to superintendent of safety of the company's Pacific Lines, with headquarters

M. A. Nugent

at San Franscisco, Cal., succeeding **A. A. Lowe,** whose retirement was reported in the *Railway Age* of March 5. Mr. Nugent entered railroad service in 1915 as a call boy for the Colorado Midland at Colorado City, Colo., and in 1917 became a brakeman for the Atchison, Topeka & Santa Fe at La Junta, Colo. He subsequently served as brakeman for the Denver & Rio Grande Western at Pueblo, Colo., and also for the Western Pacific at Stockton, Cal. In 1921 he joined the Southern Pacific at Stockton as brakeman, and later held positions successively as conductor, assistant trainmaster, division examiner, terminal trainmaster and terminal superintendent at Los Angeles, Cal. Mr. Nugent was appointed assistant division superintendent at Los Angeles in 1944, which position he held at the time of his recent promotion.

E. C. Gegenheimer, assistant chief of personnel of the Pennsylvania at Philadelphia, Pa., has been appointed acting director of public relations, succeeding **E. A. Kaier,** who has resumed his duties as general attorney.

OBITUARY

Harold P. Mead, auditor disbursements of the Central of New Jersey at Jersey City, N. J., died on March 13 at Muhlenberg hospital, Plainfield, N. J., after a brief illness, at the age of 51.

John P. Sheets, assistant to comptroller of the Pennsylvania at Philadelphia, Pa., died on March 7, at his home in Norwood, Pa., at the age of 56.

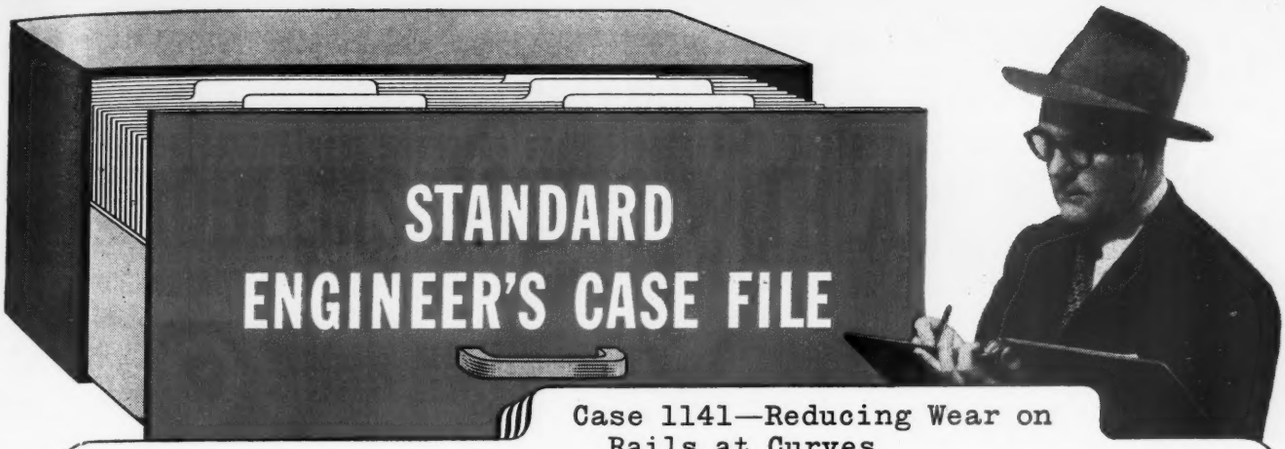
John D. Babbage, president of the Rutland, died on March 10 in a hospital at Washington, D. C., at the age of 61.

Oscar E. Pearson, who retired in 1944 as assistant superintendent of transportation for the Chicago, Burlington & Quincy at Chicago, died on March 8 at Fort Lauderdale, Fla.

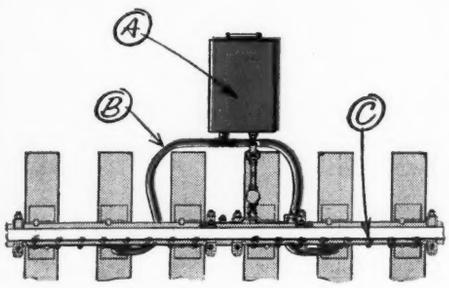
Floyd Williams, who retired on December 31, 1948, as tax commissioner of the Chicago, Milwaukee, St. Paul & Pacific at Chicago, died at his home in Coral Gables, Fla., on March 3. A sketch of Mr. Williams' career appeared in the *Railway Age* of January 8.

William J. Thorworth, traffic manager of the St. Louis-San Francisco at Mobile, Ala., died on March 12, after suffering a heart attack at Point Clear, Ala. A photograph and biography of Mr. Thorworth were published in the *Railway Age* of March 12, page 569, in connection with his appointment as traffic manager.

Glen H. Trout, who retired in 1945 as assistant chief engineer of the Union Pacific at Omaha, Neb., died in that city on March 11, following a heart attack. Mr. Trout, 69, had 42 years of railroad service at the time of his retirement, 22 years of which was spent as system bridge engineer for the U. P.



Case 1141—Reducing Wear on Rails at Curves



AUTOMATIC RAIL AND FLANGE LUBRICATOR

Car and engine wheels carried Calol Rail and Flange Lubricant and lubricated rails for a distance of more than two miles from an automatic lubricator. Calol Rail and Flange Lubricant is made from a highly water-resistant base and special lubricating graphite.

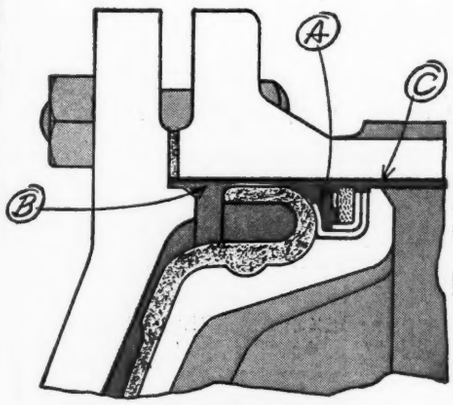
A. Very stable in use and storage — will not separate in any climate along U.S. railroads . . . will not wash off rails or flanges.

B. Pumps freely from lubricator — suitable for use in temperatures from below zero F. to over 160 degrees above.

C. Forms and retains "button" formation on wiping bar.

Calol Rail and Flange Lubricant has a "short" non-stringy texture. This keeps it on flanges and the sides of rails and minimizes the usual tendency of grease to pull over the tops of rails.

Case 1157—Maintaining Good Air-Brake Lubrication



SECTION OF BRAKE CYLINDER AND PISTON LUBRICATOR

Equaling or exceeding all specifications of the A.A.R., Calol Brake Cylinder Lubricant provided good lubrication in both freight and passenger brake cylinders for periods exceeding the usual three years. Recommended for the older K-type brake as well as the AB freight brake and HSC passenger brake.

A. Resists deterioration or separation — small quantity maintains complete coverage of cylinder . . . keeps lubricator swab saturated and pliable.

B. Minimizes swelling or deterioration of packing cup and helps to form tight seal.

C. Provides tough lubrication film that will not ball or roll from cylinder walls.

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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JANUARY OF CALENDAR YEAR 1949

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
			Freight	Passenger	Total (inc. misc.)	Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total				1949	1948
Akron, Canton & Youngstown	Jany	171	429,057	81	445,727	78,398	53,807	29,174	132,722	321,466	72.1	124,261	49,208	58,066	89,782
Atchison, Topeka & Santa Fe System	Jany	13,103	29,660,331	4,371,955	37,572,099	5,589,617	8,137,601	862,993	14,443,372	30,900,185	82.24	6,671,914	3,900,591	2,473,614	4,357,543
Atlanta & St. Andrews Bay	Jany	82	207,409	1,531	215,304	34,943	20,768	6,851	50,716	124,713	57.9	90,591	38,646	34,610	35,774
Atlanta & West Point	Jany	93	259,462	57,820	362,642	35,324	56,752	15,140	177,899	308,309	85.0	54,333	33,425	7,224	13,508
Western of Alabama	Jany	133	263,014	56,227	352,243	45,894	59,992	14,963	163,042	305,059	86.6	47,184	34,573	17,009	35,872
Atlantic Coast Line	Jany	5,562	9,078,319	2,229,425	12,213,205	1,587,250	2,097,891	338,329	5,046,557	9,656,652	79.1	2,556,553	1,100,000	1,192,388	1,337,212
Charleston & Western Carolina	Jany	343	399,857	4,174	416,240	91,985	90,854	15,637	174,057	382,871	92.0	33,369	25,000	2,614	44,245
Baltimore & Ohio	Jany	6,202	27,810,942	2,025,917	31,485,618	3,584,004	6,648,267	640,872	13,488,789	25,773,474	81.9	5,712,144	2,768,102	2,819,091	2,652,648
Staten Island Rapid Transit	Jany	29	188,771	59,110	252,007	37,037	41,952	1,847	129,118	241,128	95.7	10,879	35,030	—41,418	—75,064
Bangor & Aroostook	Jany	602	1,210,774	41,970	1,289,283	230,967	181,146	13,105	351,025	820,745	63.7	468,538	222,425	245,272	304,744
Bessemer & Lake Erie	Jany	214	1,221,988	1,288	1,240,948	161,749	485,529	19,279	389,559	1,127,537	90.9	113,411	151,341	176,018	182,011
Boston & Maine	Jany	1,757	5,249,949	1,125,670	6,985,480	1,104,530	1,165,130	98,722	3,201,923	5,878,712	84.2	1,106,768	544,304	252,193	—950,838
Burlington-Rock Island	Jany	228	254,779	52,800	329,635	45,197	41,449	6,309	161,614	275,225	83.5	54,410	7,665	—3,867	5,977
Cambria & Indiana	Jany	35	154,945	.....	154,982	15,144	61,996	985	26,656	114,091	73.6	40,891	67,375	86,605	45,164
Canadian Pacific Lines in Maine	Jany	234	707,960	51,778	789,505	69,548	103,801	7,009	268,507	466,861	59.1	322,644	26,386	198,537	79,273
Canadian Pacific Lines in Vermont	Jany	90	157,520	16,114	192,189	30,364	41,692	5,005	152,241	238,637	124.2	—46,448	13,651	—99,661	—113,834
Central of Georgia	Jany	1,815	2,554,824	252,912	3,072,267	455,998	508,245	113,416	1,506,337	2,756,722	89.7	315,545	205,652	59,196	—2,673
Central of New Jersey	Jany	415	2,584,974	526,007	3,353,760	476,013	646,466	152,508	1,854,529	3,222,987	96.1	130,773	400,772	—596,663	—841,193
Central of Pennsylvania	Jany	212	1,533,847	18,820	1,592,260	158,418	259,398	24,597	513,392	1,003,591	63.0	588,669	68,380	777,882	544,489
Central Vermont	Jany	422	668,000	67,000	786,000	117,535	149,349	15,131	362,356	678,400	86.3	107,600	46,695	1,824	—72,516
Chesapeake & Ohio	Jany	5,098	24,133,487	957,075	26,115,308	3,627,522	4,689,520	655,695	9,723,536	19,891,730	76.2	6,223,578	3,179,540	3,419,876	2,536,083
Chicago & Eastern Illinois	Jany	909	1,939,487	369,382	2,545,784	314,042	452,166	107,941	1,131,023	2,171,520	85.3	374,264	163,800	142,950	146,275
Chicago & Illinois Midland	Jany	131	755,484	822	775,707	87,838	152,007	32,557	226,042	534,185	68.9	241,522	97,926	127,495	158,275
Chicago & North Western	Jany	8,076	10,030,742	1,917,882	13,503,768	2,301,295	3,309,757	277,504	7,455,526	14,172,556	105.0	—668,788	1,037,436	—1,844,323	—1,068,776
Chicago, Burlington & Quincy	Jany	8,714	13,467,201	1,460,723	16,530,188	2,463,029	3,403,576	431,419	6,947,328	13,941,965	84.3	2,588,223	1,593,052	551,466	2,520,598
Chicago Great Western	Jany	1,500	2,412,817	46,146	2,664,026	368,467	336,437	108,032	1,168,670	2,074,684	77.9	589,342	204,905	174,644	176,569
Chicago, Indianapolis & Louisville	Jany	541	1,271,572	110,484	1,471,328	244,678	259,129	83,552	612,023	1,300,399	88.4	170,929	78,775	32,715	80,737
Chicago, Milwaukee, St. Paul & Pacific	Jany	10,671	14,981,648	1,672,287	18,461,137	2,694,986	4,325,844	423,742	9,526,425	17,934,456	97.1	526,681	1,433,000	—1,322,248	—335,504
Chicago, Rock Island & Pacific	Jany	7,631	11,127,429	2,115,678	14,389,395	1,618,929	2,133,792	458,249	6,213,576	11,154,781	77.5	3,234,614	1,468,164	1,099,653	1,059,547
Chicago, St. Paul, Minn. & Omaha	Jany	1,617	2,114,605	218,291	2,524,037	313,299	514,210	60,151	1,414,773	2,427,596	96.2	96,441	184,528	—206,933	—275,875
Clinchfield Railroad	Jany	317	1,410,450	4,526	1,427,446	184,597	300,318	33,639	434,655	983,921	68.9	443,525	156,981	345,199	526,185
Colorado & Southern	Jany	745	693,886	79,643	855,767	144,341	209,416	25,417	463,542	896,290	104.7	—40,523	73,184	—149,682	74,906
Ft. Worth & Denver City	Jany	902	838,211	134,442	1,064,605	165,077	196,998	43,967	468,526	949,496	89.2	115,109	58,413	20,913	137,224
Colorado & Wyoming	Jany	41	136,010	.....	230,716	11,742	21,411	571	90,022	130,602	56.6	100,114	52,175	48,007	53,780
Columbus & Greenville	Jany	168	154,219	—4	161,470	32,600	30,462	4,405	47,087	131,239	81.3	30,231	18,772	14,334	13,019
Delaware & Hudson	Jany	794	3,972,249	221,208	4,302,754	566,657	1,210,519	73,033	1,866,200	3,897,230	90.6	405,524	265,567	137,445	349,218
Delaware, Lackawanna & Western	Jany	969	5,530,604	906,622	6,970,432	832,236	1,275,036	153,591	3,270,712	5,775,990	82.9	1,194,442	649,065	534,431	386,002
Denver & Rio Grande Western	Jany	2,443	4,650,032	272,010	5,166,081	569,015	1,026,165	148,869	2,128,187	4,146,749	80.3	1,019,332	494,859	539,879	1,015,370
Detroit & Mackinac	Jany	232	127,171	856	138,716	31,500	22,639	1,909	33,459	95,999	69.2	42,717	17,957	26,400	47,509
Detroit & Toledo Shore Line	Jany	50	619,996	.....	622,562	36,065	47,761	12,477	185,571	292,443	47.0	330,119	107,908	132,072	114,522
Detroit, Toledo & Western	Jany	464	1,584,453	545	1,624,230	147,402	197,105	23,969	367,409	770,736	47.5	853,494	336,974	463,730	319,748
Duluth, Missabe & Iron Range	Jany	575	144,460	2,065	185,120	733,238	468,462	8,385	451,992	1,727,900	933.4	—1,542,780	69,466	—1,641,894	—1,214,096
Duluth, Winnipeg & Pacific	Jany	175	281,000	1,100	287,100	43,336	48,425	4,304	144,747	246,855	86.0	40,245	23,744	—15,251	—21,192
Elgin, Joliet & Eastern	Jany	238	3,508,900	5	4,095,055	207,290	646,301	27,298	1,423,567	2,421,746	59.1	1,673,309	653,641	713,777	353,069
Erie	Jany	2,229	11,625,010	650,452	13,022,331	1,409,677	2,395,497	319,361	5,666,900	10,426,948	80.1	2,595,383	1,227,533	1,046,004	631,215
Florida East Coast	Jany	575	1,711,791	932,274	2,905,448	398,283	437,811	68,081	1,088,982	2,214,024	76.2	691,424	162,612	400,836	467,234
Georgia Railroad	Jany	326	642,133	40,607	726,402	107,045	105,226	29,686	352,939	625,394	86.1	101,008	36,246	84,848	51,563
Georgia & Florida	Jany	408	239,349	796	244,968	90,072	35,639	15,089	109,375	261,428	106.7	—16,460	16,330	—49,083	—5,686
Grand Trunk Western	Jany	971	3,384,000	178,000	3,811,000	568,733	823,332	64,079	1,874,475	3,488,894	91.5	322,106	245,836	6,312	—110,303
Canadian Nat'l Lines in New Engl.	Jany	172	164,000	8,500	190,000	56,566	56,367	2,850	124,522	249,790	131.5	—59,790	22,576	—113,256	—110,282
Great Northern	Jany	8,318	11,083,683	958,437	13,091,548	2,791,629	3,079,922	319,700	6,588,753	13,402,612	102.4	—311,064	1,204,969	—1,839,019	163,413
Green Bay & Western	Jany	224	273,143	24	284,629	55,832	36,797	19,867	100,323	226,053	79.4	58,576	39,346	3,591	13,157
Gulf, Mobile & Ohio	Jany	2,901	5,372,582	551,414	6,386,953	1,093,321	1,069,001	238,041	2,187,682	4,903,722	76.8	1,483,231	685,673	567,460	535,971
Illinois Central	Jany	6,552	17,006,769	2,125,273	21,234,708	3,266,593	3,827,665	466,536	8,281,064	16,807,100	79.1	4,427,608	2,329,727	1,865,421	1,230,103
Illinois Terminal	Jany	474	810,546	115,263	1,018,046	145,522	141,787	36,435	414,949	783,169	76.93	234,877	117,107	114,764	96,301
Kansas City Southern	Jany	891	3,174,483	100,314	3,504,415	302,039	392,961	93,938	998,060	1,910,832	54.5	1,593,583	540,000	871,436	726,950
Louisiana & Arkansas	Jany	756	1,418,602	65,961	1,543,206	202,028	196,646	50,004	532,134	1,030,134	66.8	513,072	185,000	237,543	249,941
Kansas, Oklahoma & Gulf	Jany	328	525,230	782	531,178	40,779	45,356	18,722	141,594	264,578	49.8	266,600	111,878	113,189	76,676
Lake Superior & Ishpeming	Jany	156	50,290	44	53,629	34,815	56,190	1,758	42,897	145,603	271.5	—91,974	23,669	—109,171	—101,458
Lehigh & Hudson River	Jany	96	256,612	.....	257,455	31,126	45,938	9,438	101,513	198,685	77.2	58,770	23,416	12,048	—12,514
Lehigh & New England	Jany	191	545,699	.....	552,203	87,875	117,404	10,836	175,100	424,212	76.8	127,991	69,528	79,096	70,794
Lehigh Valley	Jany	1,252	5,302,441	411,032	6,010,203	833,197	967,000	145,652	2,873,524	5,078,701	84.5	931,502	429,606	331,798	64,233
Louisville & Nashville	Jany	4,764	13,957,290	1,367,932	16,405,187	2,239,272	3,577,293	313,119	7,041,796	13,781,647	84.0	2,623,540	1,766,681	1,359,779	1,226,373
Maine Central	Jany	981	2,040,261	140,865	2,296,535	321,774	418,063	18,640	738,206	1,558,359	67.9	738,176	389,560	308,694	156,009
Midland Valley	Jany	334	157,193	14	161,060	28,109	15,379	4,099	56,815	111,317	69.1	49,743	26,381	10,190	28,428
Minneapolis & St. Louis	Jany	1,421	1,478,434	13,541	1,536,746	262,619	249,388	104,828	553,940	1,260,269	82.0	276,477	139,767	122,079	91,064

Table continued on next left-hand page

BRIDGE CONSTRUCTION AND MAINTENANCE PROBLEMS SOLVED WITH ARC WELDING

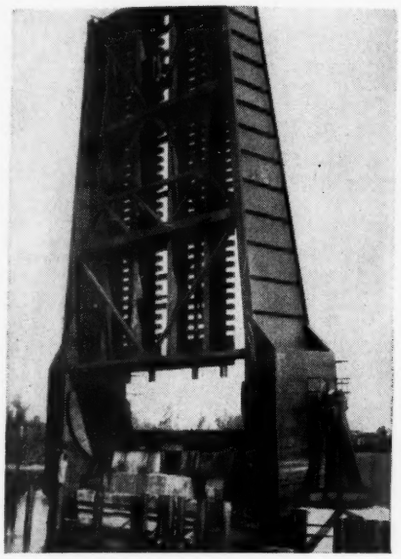


Fig. 1. All welded bascule bridge built in 1935 with saving of 142.5 tons of steel.

By A. T. COX
Vice President, Lincoln Electric Railway Sales Co.
Cleveland, Ohio

ONE of the first all welded railroad bridges is the bascule span shown in Fig. 1 which has been in constant main line service since 1935.

Fig. 2. Welding saved 33% in construction of this trestle.

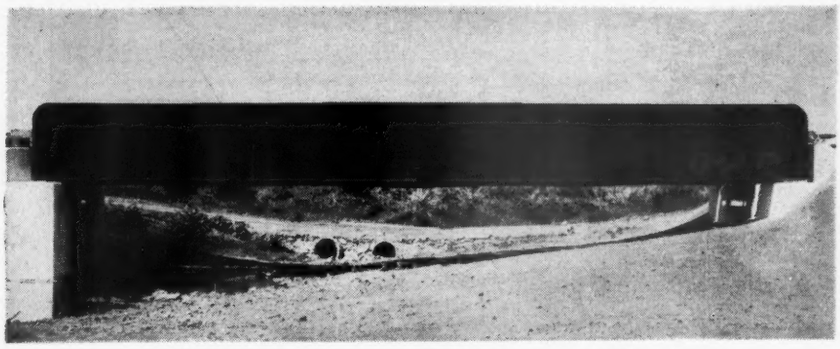


Fig. 3. Girder span bridge. Welding cut weight 20%.

In the construction of this bascule bridge, arc welding permitted a weight reduction of 42½ tons in the 60-ft. span itself and 100 tons in the counterweight, netting a substantial saving in construction cost and in year-in-and-year-out operating cost.

Another interesting structure is that of the main line 1200-ft. long trestle shown in Fig. 2 which was fabricated and erected by arc welding. Girders are 36″ WF 160 with cross frames carried on four-pile bents spaced 23′-6″ to 30′. Cost saving over conventional construction amounted to 33%.

The girder span shown in Fig. 3 is typical of many which have been fabricated from steel plate and shapes by arc welding at savings of 15% to 25% over conventional methods.

Fig. 4. Welding increased the loading of this bridge from E-40 to E-72.

Typical of the hundreds of railroad bridges which have been strengthened by arc welding is the main line 1320-ft. viaduct shown in Fig. 4. By reinforcing columns with welded on angles and by bracing each tower laterally and longitudinally with welded angles and channels, the loading of the bridge was increased from E-40 to E-72. All welding was done with engine driven "Shield-Arc" welders and "Fleetweld 5" electrodes.

The above is published by **THE LINCOLN ELECTRIC COMPANY** *in the interests of progress.*
For further information about arc welding procedures or equipment, write The Lincoln Electric Railway Sales Co., 11 Public Square, Cleveland, Ohio, railroad representatives of The Lincoln Electric Company, Cleveland, Ohio.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JANUARY OF CALENDAR YEAR 1949

Name of road		Av. mileage operated during period	Operating revenues			Operating Expenses					Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
			Freight	Passenger	Total (inc. misc.)	Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total				1949	1948
Minneapolis, St. Paul & S. S. Marie	Jany	3,224	2,032,203	86,960	2,238,030	555,931	571,261	63,435	1,227,926	2,519,982	122.6	—281,952	178,334	—524,200	—396,566
Duluth, South Shore & Atlantic	Jany	530	383,334	9,811	412,332	103,151	100,289	20,089	215,832	450,242	109.2	—37,910	22,689	—73,729	19,420
Spokane International	Jany	152	107,856	1,506	122,396	44,515	21,895	4,032	71,564	152,165	124.3	—29,769	12,770	—56,165	7,161
Mississippi Central	Jany	148	202,114	—29	206,703	45,342	23,778	13,053	56,495	147,784	71.5	58,919	27,392	12,986	23,257
Missouri & Arkansas	Jany	...	—6,851	6	—6,267	931	192	.....	237	2,990	...	—9,257	2,009	—11,266	—18,759
Missouri-Illinois	Jany	172	354,941	252	357,408	48,134	44,313	7,760	93,850	202,970	56.8	154,438	69,238	82,313	82,101
Missouri-Kansas-Texas Lines	Jany	3,253	5,619,269	399,162	6,456,177	907,404	999,041	240,324	2,856,487	5,304,148	82.2	1,152,029	425,911	317,986	327,410
Missouri Pacific	Jany	7,007	14,179,343	1,190,970	16,788,653	2,306,328	3,043,677	428,617	7,171,090	13,570,602	80.8	3,218,051	1,050,989	1,512,218	1,523,815
Gulf Coast Lines	Jany	1,717	3,756,892	103,740	4,051,510	701,064	440,548	81,390	1,363,354	2,709,028	66.9	1,342,482	339,408	600,146	695,504
International-Great Northern	Jany	1,110	2,336,317	189,866	2,784,533	500,633	420,080	53,887	1,217,778	2,297,037	82.5	487,496	118,316	210,650	199,612
Monongahela	Jany	170	710,250	1,108	715,459	85,247	71,491	916	226,046	390,866	54.6	324,593	92,361	91,699	108,138
Montour	Jany	51	255,243	.....	257,244	21,155	78,223	962	90,620	202,675	78.8	54,569	54,429	64,080	65,441
Nashville, Chattanooga & St. Louis	Jany	1,051	2,230,856	223,964	2,729,747	394,012	342,113	106,790	1,187,593	2,144,352	78.6	585,385	298,254	275,670	205,807
New York Central	Jany	10,731	44,400,782	11,420,811	61,535,117	7,388,007	12,946,917	978,552	28,938,827	53,425,519	86.8	8,109,598	4,743,703	1,693,691	—2,358,350
Pittsburgh & Lake Erie	Jany	221	3,523,206	93,970	3,770,570	415,138	952,572	69,351	1,376,530	3,036,199	80.5	734,371	584,947	763,159	599,862
New York, Chicago & St. Louis	Jany	1,687	8,486,544	142,588	8,807,564	1,149,780	1,438,460	204,358	3,096,124	6,186,621	70.2	2,620,943	1,016,226	1,227,785	799,872
New York, New Haven & Hartford	Jany	1,798	7,552,811	4,438,907	13,243,405	1,943,267	2,035,706	223,067	5,812,949	10,989,504	82.3	2,344,901	848,000	690,918	—1,147,506
New York Connecting	Jany	21	238,827	.....	247,781	66,573	14,818	.....	58,951	142,714	57.6	105,067	61,110	81,993	41,255
New York, Ontario & Western	Jany	544	536,541	3,682	592,223	109,951	98,926	31,360	309,853	583,190	98.5	9,033	39,992	—99,943	—223,310
New York, Susquehanna & Western	Jany	120	353,711	46,859	415,624	48,175	53,878	5,917	183,157	322,163	77.5	93,461	30,996	33,940	—77,282
Norfolk & Western	Jany	2,129	13,662,320	546,341	14,801,038	1,916,168	3,189,114	247,373	4,716,653	10,631,164	71.8	4,169,874	2,393,485	2,659,217	3,274,026
Norfolk Southern	Jany	683	728,137	243	753,433	124,077	91,062	43,617	266,416	584,969	77.6	168,464	292,369	58,291	44,556
Northern Pacific	Jany	6,889	8,485,525	670,817	10,043,848	2,123,247	2,483,399	254,456	4,919,822	10,452,125	104.1	—408,277	1,124,470	—1,416,281	241,367
Northwestern Pacific	Jany	331	520,851	6,062	551,513	163,307	85,768	4,045	319,269	585,201	106.1	—33,688	36,402	—103,572	—60,927
Oklahoma City-Ada-Atoka	Jany	132	80,379	.....	81,353	14,446	3,464	1,772	22,841	46,107	56.7	35,246	13,802	8,799	8,584
Pennsylvania	Jany	10,142	59,841,868	15,316,593	81,786,739	9,100,190	18,280,534	1,117,790	37,357,211	69,077,078	84.5	12,709,661	6,728,720	4,325,393	1,231,585
Long Island	Jany	376	1,177,897	2,510,809	3,876,791	653,357	920,940	110,862	2,435,647	4,347,170	112.1	—470,379	474,698	—1,223,764	—1,133,964
Pennsylvania-Reading Seashore Lines	Jany	97	167,619	.....	168,515	24,324	37,656	3,321	58,704	133,200	79.0	35,315	5,462	35,171	60,395
Pittsburgh & Shawmut	Jany	135	781,749	.....	805,365	141,642	144,716	45,208	202,928	570,740	70.9	234,625	110,750	155,810	134,593
Pittsburgh & West Virginia	Jany	1,338	9,217,526	701,075	10,447,711	1,611,057	2,271,814	132,027	4,370,053	8,685,740	83.1	1,761,971	908,901	675,299	478,037
Reading	Jany	118	1,358,949	691,960	2,264,841	370,411	366,099	21,863	1,048,518	1,940,825	85.7	324,016	163,740	53,570	275,638
Richmond, Fredericksburg & Potomac	Jany	407	341,515	35,883	458,976	122,128	114,850	15,610	282,477	553,417	120.6	—94,441	33,378	—144,569	—109,506
Rutland	Jany	4,645	7,325,016	747,919	8,720,887	1,520,907	1,545,168	248,196	3,770,344	7,499,383	86.0	1,221,504	707,452	502,980	550,958
St. Louis-San Francisco	Jany	159	302,475	10,314	329,849	49,276	33,274	16,947	170,340	280,356	85.0	49,493	15,283	2,265	40,481
St. Louis, San Francisco & Texas	Jany	1,569	4,836,067	62,020	5,064,092	607,698	694,066	141,477	1,824,841	3,450,289	68.1	1,613,803	637,646	733,101	974,833
St. Louis Southwestern Lines	Jany	4,153	9,282,772	1,786,783	11,905,451	1,781,102	2,091,505	327,514	4,639,317	9,434,163	79.2	2,471,288	1,137,072	1,095,391	1,209,545
Seaboard Air Line	Jany	6,411	15,597,662	1,630,786	18,606,622	2,889,329	3,932,883	370,687	7,615,865	15,632,035	84.0	2,974,587	1,467,354	1,224,519	2,496,833
Southern Railway	Jany	316	1,131,749	119,417	1,345,490	207,213	306,138	30,690	473,570	1,073,822	79.8	271,668	172,770	129,774	219,951
Alabama Great Southern	Jany	337	2,660,483	212,544	3,049,231	444,234	573,266	57,587	975,240	2,168,576	71.1	880,655	464,053	491,724	636,672
Cinn., New Orleans & Texas Pacific	Jany	397	466,084	85,547	607,707	144,385	76,211	7,637	233,983	481,161	79.2	126,546	31,085	27,156	55,999
Georgia Southern & Florida	Jany	204	779,944	67,690	899,567	136,928	89,039	20,428	220,751	507,808	56.5	391,759	173,151	162,821	232,715
New Orleans & Northeastern	Jany	8,174	24,319,304	3,774,989	30,441,780	4,477,346	7,045,620	692,056	14,698,287	28,996,216	95.3	1,445,564	2,439,697	—1,558,687	2,227,193
Southern Pacific	Jany	4,316	8,697,682	818,280	10,148,337	1,669,698	1,551,640	207,908	4,191,606	8,126,215	80.1	2,022,122	548,036	959,039	1,095,488
Texas & New Orleans	Jany	945	1,640,024	97,986	1,839,374	277,707	237,275	23,388	863,491	1,500,170	81.6	339,204	163,440	60,709	26,743
Spokane, Portland & Seattle	Jany	286	350,352	2,359	378,349	60,873	48,835	9,788	181,301	317,495	83.9	60,854	26,400	5,848	—66,336
Tennessee Central	Jany	8	92,031	.....	106,362	3,714	6,094	824	31,916	48,311	45.4	58,051	19,727	27,928	Not in operation
*Texas & Northern	Jany														
Texas & Pacific	Jany	1,854	4,725,576	505,764	5,652,456	733,337	887,417	174,983	2,373,799	4,473,633	79.1	1,178,823	365,400	597,006	596,388
Texas-Mexican	Jany	162	244,108	.....	271,132	45,281	26,878	6,827	68,090	161,430	59.5	109,702	39,134	50,439	45,920
Toledo, Peoria & Western	Jany	239	396,874	5	402,804	43,389	26,519	33,888	107,580	238,259	59.2	164,545	61,452	75,417	43,572
Union Pacific System	Jany	9,727	24,032,873	2,729,900	29,579,414	5,685,552	6,293,266	834,924	13,450,908	28,465,772	96.2	1,113,642	2,232,713	—1,946,516	2,587,191
Utah	Jany	111	201,443	.....	201,571	34,174	47,488	732	107,800	198,762	98.6	2,809	13,759	—12,920	18,178
Virginian	Jany	663	3,347,863	4,555	3,460,561	368,074	834,474	41,631	803,285	2,130,051	61.6	1,330,510	597,000	872,698	791,789
Wabash	Jany	2,393	7,110,152	478,902	8,133,082	1,044,473	1,189,941	264,830	3,625,931	6,470,758	79.6	1,662,324	720,487	599,854	950,481
Ann Arbor	Jany	294	669,375	3,041	686,261	76,047	119,498	23,552	318,929	555,113	80.9	131,148	62,616	57,742	21,129
Western Maryland	Jany	837	3,684,118	10,671	3,854,297	451,561	750,040	72,286	1,214,303	2,630,906	68.3	1,223,391	586,000	730,429	683,020
Western Pacific	Jany	1,195	2,577,455	214,248	2,877,612	511,091	602,431	150,491	1,315,688	2,801,356	97.4	76,256	188,988	—157,328	387,575
Wheeling & Lake Erie	Jany	506	2,722,919	.....	2,807,986	307,620	444,991	66,599	886,017	1,790,301	63.8	1,017,685	535,510	686,971	654,316
Wisconsin Central	Jany	1,051	1,952,358	40,445	2,099,516	259,846	379,648	60,964	1,013,483	1,798,058	85.6	301,458	137,612	16,027	—4,690

*Became Class I road January 1, 1949.

GENERAL NEWS

(*Continued from page* 102)

STODDARD PROMOTED TO BRIGADIER GENERAL IN ARMY RESERVE CORPS

Arthur E. Stoddard, who was recently elected to the presidency of the Union Pacific, has also been promoted from colonel to brigadier general in the Officers' Reserve Corps of the Army of the United States. The promotion, made recently by President Truman, was confirmed by the Senate on March 10.

As noted in the *Railway Age* of March 5, page 59, General Stoddard's military service was with the Transportation Corps in World War II, and included his assignment as general manager of the First Military Railway Service, commanding all rail transportation in the southern area of France and Germany.

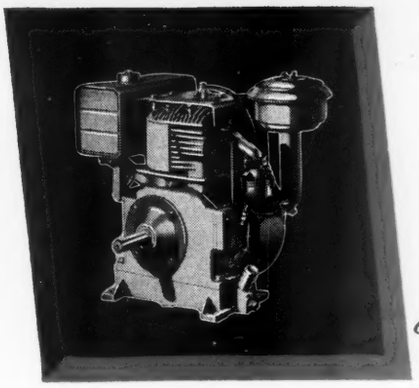
Further Rate Increases Needed, Says Clement

"Further rate increases are necessary and will continue to be necessary if costs continue to mount," M. W. Clement, president of the Pennsylvania, said in the road's 102nd annual report, released on March 14. "There is no other answer," he continued. The rapidity and enormous size of wage increases granted by emergency boards "preclude any possibility of these cost increases being completely absorbed. They must again be offset largely by increases in freight rates and passenger fares. It is most unfortunate that there is no alternative."

Although operating revenues for 1948 were the highest for any peacetime year in the Pennsylvania's history, the net results for the year were "far from satisfactory," Mr. Clement told the stockholders, though "much more encouraging than for the year 1947. . . . If it had been permissible, under regulation, for your company to have priced its services—its transportation rates—in keeping with the cost of production under ordinary business principles, it would have been a very sound year for the economy of your company."

Warns Business Men of Stake In Solution of Transport Problem

Business and industrial leaders should take advantage of the "great opportunity" they now have to aid in solving the "national transportation problem" because preservation of the private-enterprise system is at stake, Dr. John H. Frederick, professor of transportation at the University of Maryland, said in a March 9 address before students of the Fourth Annual Rail Transportation Institute at American University, Washington, D. C. Dr. Frederick, who is also consultant for the Transportation Association of



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America, appraised the present condition of the transportation industry as "critical," but saw no "insurmountable" obstacles in the path of a "sound and lasting" solution—"if we bear in mind that what we are dealing with is *transportation as a service to the public.*"

He warned, however, that "the element of time is of prime importance." "Whatever is done about the problem legislative-wise," he continued, "should be enacted into law within the next two years, and should be well-established in operation, if possible, before we reach the depths of the next business depression. If this has not been done there is little hope for a continuance of private operation of transportation in this country. The skids are already greased for us to go down the same road as Britain. There is still time, however, to give careful consideration to all phases of the problem and for proper legislative action."

The "critical" situation of the transportation industry was attributed by Dr. Frederick to "political and economic conditions," which are "forcing" the railroads "'steadily down the road to government ownership and operation." Unless this trend is arrested, he added, "the day will surely come when not only railroads but trucks and buses, water carriers, air lines and even pipe lines will no longer be able to maintain themselves as part of our private enterprise system."

This "pressure" does not represent "the action of any group dedicated to the task of the destroying the private-enterprise position of the transportation industry," Dr. Frederick continued. He identified it as "largely" the product of the "evolution of competing forms of commercial transportation . . . and the national policies governing their development and expansion." At the same time he laid the basis for his summons to leaders of the private-enterprise system when he went on to say that "it is also the product of general indifference and unconcern on the part of the business men of this country—the users of transportation—as to what is happening."

"Conditions in transportation have undergone a revolution, but the habits of thought of most people about this industry have not changed in a similar manner," Dr. Frederick added. He proceeded to review the evolution of the country's presently-declared national transportation policy, calling its statutory base a "perfect hodge-podge of enactments," which resulted from "attempts to compromise the conflicts between various competing and opposing carriers as they have been brought under federal regulation," and which "leaves us now with too much regulation, too much conflict in regulation . . . and too little left to management."

Thus Dr. Frederick called for "an honest and objective approach" in the light of conditions as they exist today. He listed some of those conditions as the "deplorable" financial position of the "majority" of carriers, the lack of sufficient tonnage to go around in peacetime, the need for such matching of regulation with economic trends as would afford all types of carriers an opportunity to earn a fair return, the passing of monopoly conditions in the transport field, and the "potent competitive influence" of contract and private carriers.

Dr. Frederick did not make specific recommendations, but said that the approach of all interested groups should be one of seeking, as far as possible, "a common meeting ground where all transportation agencies can unite in justice to the public interest and with fairness between them in their competitive relations to each other." He added that "we must concern ourselves with retaining all that is good and where deficient improve our system of regulation." Meanwhile, he called the national transportation inquiry being conducted by the House committee on interstate and foreign commerce an "important" step toward development of a "new transportation policy suited to conditions as they exist today and as they will exist in the foreseeable future." Dr. Frederick was formerly

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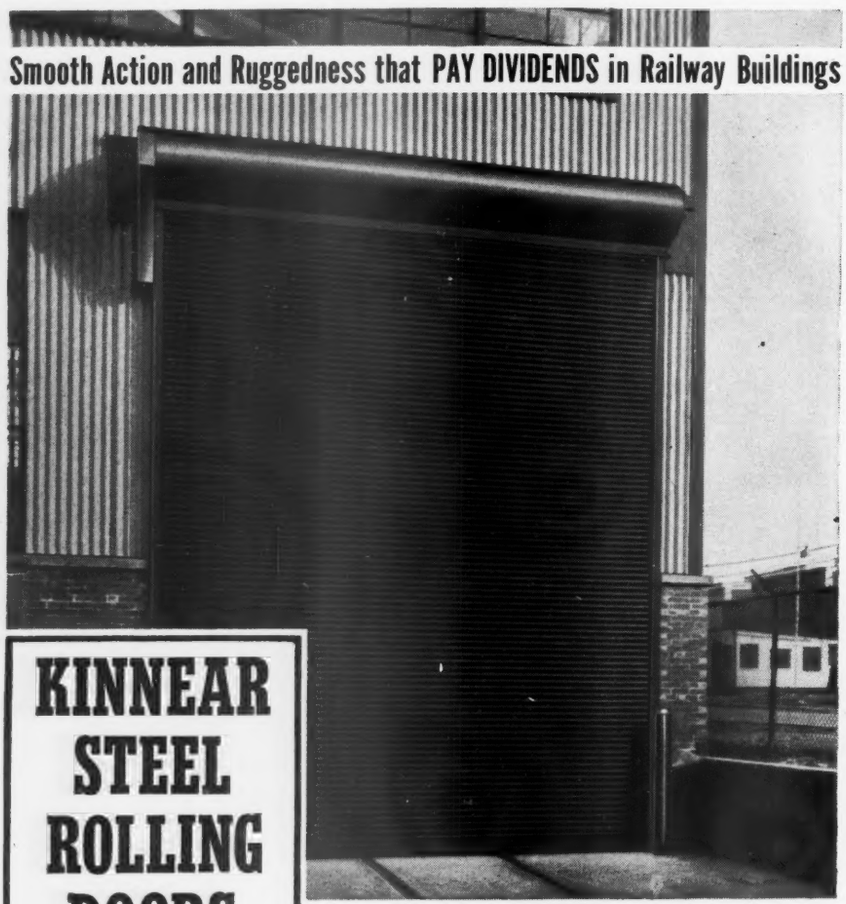

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consultant to the committee, and in that capacity did considerable work on the inquiry.

Norton Sees Future in Motor Cars for Suburban Service

Although probably nothing can be found to eliminate entirely the losses sustained in rendering suburban passenger service — particularly that offered at low commutation rates — the burden may be "mitigated" by use of self-propelled Diesel cars which will not only cut costs but, by affording more frequent and attractive service, serve to increase off-peak traffic.

This is the view of Henry K. Norton, trustee of the New York Susquehanna & Western, expressed at an informal luncheon of railway supply men in Chicago on March 4. The speaker gave point to his opinion by reviewing the experience of his own road in building up full-fare, all-day suburban traffic between Paterson, N. J., and mid-town New York by use of air-conditioned, streamlined self-propelled rail cars and bus shuttle service. (See *Railway Age* of June 30, 1945, page 1132). This operation not only reduced the road's passenger deficit, but greatly enhanced its popularity in the territory served, with tangible benefits in public support and freight traffic.

Mr. Norton then described a number of improvements in suburban motor equipment now under way or under discussion which should serve to cut operating costs. In illustration, he displayed a cut-away model of a 500-hp. Diesel-electric rail car, with double-level construction, seating 152 passengers. This car was designed out of a series of conferences of representatives of interested railroads under the chairmanship of Carleton W. Meyer, assistant to the president of the Chesapeake & Ohio.

Mr. Norton then referred to several developments in passenger coach design to afford increased capacity. He mentioned new cars on the Chicago, Rock Island & Pacific with 100 seats, cars under order by the New York Central with 125 seats, Long Island cars with 138 seats and new 148-passenger "gallery cars" which the Budd Company is building for the Chicago, Burlington & Quincy. Mr. Norton said he would favor a three-opposite-two seat arrangement on the lower deck to raise the seating capacity to 172 persons.

Answer Customers' Questions, is C. & N. W. Advice to Employees

How important it is that employees answer, or attempt to answer, the numerous questions of travelers and shippers is stressed by the Chicago & North Western in a new employee pamphlet entitled "Information Please!" The booklet is part of a program to bring management public relations problems to the attention of employees throughout the 10,000-mi. system.

R. L. Williams, president of the

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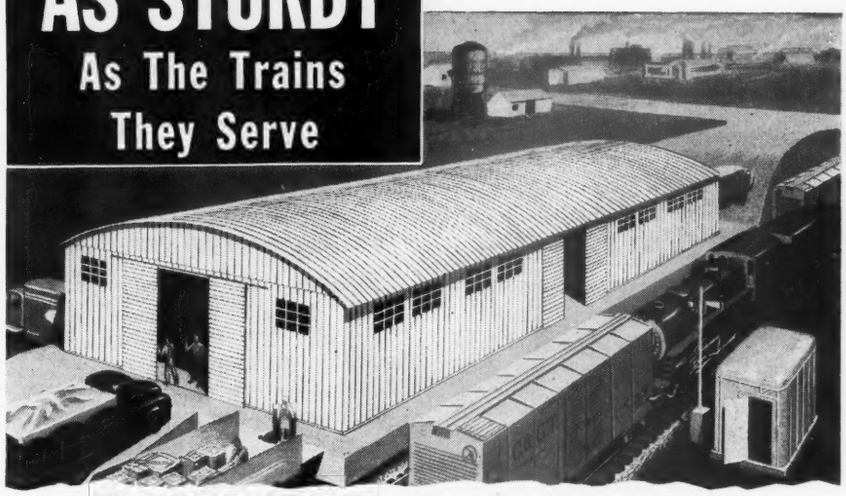

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T. P. & W. Fined $3,000

The Interstate Commerce Commission has been advised that the Toledo, Peoria & Western was fined a total of $3,000 in the United States District Court for the Southern District of Illinois on February 24. The fine was imposed after the T.P.& W. entered a plead of *nolo contendere* to 3 counts of an information consisting of 10 counts charging violation of the Elkins Act arising out of the failure of the road to observe the provisions of its published tariffs. The remaining 7 counts were *nolle prossed.*

The specific offense, according to the notice issued by the commission, was the failure of the T.P.& W. to assess and collect switching charges on cars switched by it for the International Harvester Company at Canton, Ill.

Road Builders Find New Way to Subsidize Air Lines

Near future agitation for further subsidization of air transport by construction of limited access express highways between airports and city business centers is foreshadowed by a recent ground-travel survey conducted by the airports division of the American Road Builders Association.

The survey, as reported in the February 15 issue of the magazine American Aviation, showed that only 10 of 60 major airports are less than 20 minutes driving time from business centers of cities they serve, while 19 are 30 minutes or more away. In distance, only 13 of the 60 airports are less than five miles from business centers, and 26 are more than eight miles. Principal existing highways to 26 of the 60 airports have 10 or more traffic lights; those to 11 have 20 or more lights.

Combined ground travel time between cities and airports at Detroit, Mich., and Cleveland, Ohio, the survey revealed, is nearly twice as long as the flying time between the two cities; while ground coverage of the 27 miles between airports and business centers at San Francisco, Cal., and Los Angeles takes about three-fifths as much time as the flight between the two ports.

The remedies suggested involve construction of new airports located closer to business centers; or construction of

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through express streets or highways between cities and airports. As an example of what the latter solution is likely to cost, the American Aviation article states that the Director of Public Works for California has allocated $3,890,000 to assist in constructing a quarter-mile section of a "freeway" as part of a future city-airport connection. So far as available information indicates, the air lines which will benefit from this expensive construction have not offered to contribute to its cost.

Sillcox to Lecture at Syracuse

The first Salzberg memorial lecture in transportation engineering at Syracuse University Syracuse, N. Y., will be presented on April 27 by Lewis K. Sillcox, vice-president of the New York Air Brake Company, of Watertown, N. Y., Dean Thomas H. Carroll of the university's College of Business Administration has announced.

The lecture fund was established in 1947 by Murray M. Salzberg, of New York, to encourage an integrated approach to training in the field of transportation engineering. The lecture will be open to the public.

RR Fair to Have "Moffat Tunnel"

The Denver & Rio Grande Western will construct a reproduction of the famous Moffat Tunnel at this year's Railroad Fair, which is to reopen at Chicago on June 25 and continue for 100 days. The Rio Grande exhibit is one of a long list of new entertainment and educational features yet to be announced, stated Major Lenox R. Lohr, president of the exposition. He said the Rio Grande will haul to the site of its exhibit tons of the same red rock blasted from the mountains through which the original tunnel was built. The entrance to the reproduction will lead to twin theaters, one for showing motion pictures illustrating the Rio Grande's role in the growth of the west and the other for display of exhibits depicting development of territory served by the railroad.

C.N.R. to Take Over Newfoundland

Under the terms of the pact by which the island of Newfoundland will become the tenth province of Canada not later than March 31, the Newfoundland Railway and publicly owned communication services will be taken over by the Dominion government and operated by the Canadian National. For rate regulation purposes, the island will be included in the Maritime region of Canada, which now includes the provinces of Nova Scotia, New Brunswick and Prince Edward Island. Through traffic moving by boat between North Sydney, N. S., and and Port Aux Basques, Nfld., will be treated as all-rail traffic.

The Newfoundland Railway, completed in 1897 as the Reid Newfoundland, was taken over by the island government some years ago, and has

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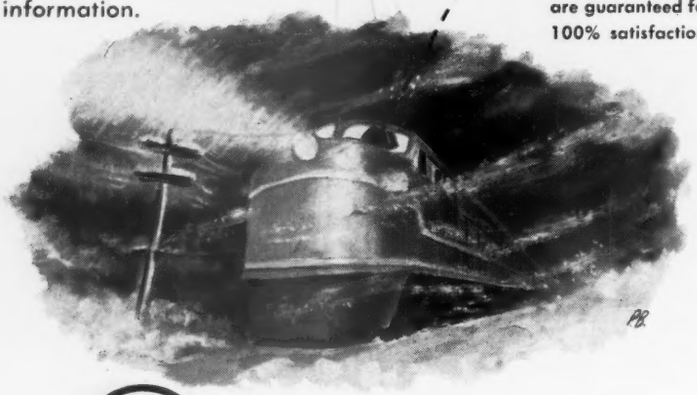

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been administered by the Commissioner for Public Utilities from offices at St. John's, the island capital. It operates approximately 705 mi. of 3 ft. 6 in. gage line, consisting of a 547-mi. main line from Port Aux Basques to St. John's, and the following branches:

Shoal Harbor to Bonavista	88 mi.
Brigus Jct. to Carbonear	39 mi.
Placentia Jct. to Placentia and Argentia	22 mi.
Notre Dame Jct. to Lewisporte	9 mi.

According to the latest available information, track consists of 70-lb. British and 70-lb. and 50-lb. American standard sections, laid on untreated ties of local soft wood and gravel ballast. Maximum curvature is 12 deg. and maximum grade 2.5 per cent. There are 181 bridges, with 239 spans, but no tunnels.

Equipment consists of 45 locomotives, 60 passenger-train cars, 1,043 freight-train cars and 312 miscellaneous cars. Most of the equipment has been built in Canada or the United States, and, except for the smaller size and carrying capacity required by the narrower gage, follows Canadian and U. S. design. Through trains, with sleeping and dining cars, are operated between Port Aux Basques and St. John's, which is also the site of the company's largest car and locomotive repair shops. Principal commodities carried in freight service are ore, paper, pulpwood, timber and fish.

The Newfoundland also operates some trucks in express service, and a number of passenger-freight steamships between Port Aux Basques and North Sydney, to outlying Newfoundland ports and fishing villages, and to Labrador.

Plowman Gives Reasons for British Transport Nationalization

The nationalization of transportation, which he described as "an insidious thing," resulted in Great Britain from seven fundamental causes in addition to "the political and social philosophy of the Labor party," E. Grover Plowman, vice-president, traffic, of the United States Steel Corporation, told the Traffic Club of Wilmington, Del., on March 8. These reasons he listed as follows:

"1. The failure of railways to work out integration of their services and operations, with the result that a large portion of the work of the railway organizations had become inter-company detail work rather than constructive transportation work.

"2. Failure of previous governments, railways and motor carriers adequately to coordinate their services and facilities to provide satisfactory joint services.

"3. The ever-increasing complexities of railway rates.

"4. Failure of railways to develop personnel and employment practices and systems of promotion which railway employees considered fair and equitable.

"5. Failure of railways to provide office facilities and working conditions satisfactory to employees.

"6. The apprehension that the rail-

ways would be financially unable to rehabilitate their properties and improve their facilities to the extent necessary to meet postwar conditions.

"7. The apparent concern of security owners chiefly in the amount of compensation to be paid them for their securities."

Usually, Mr. Plowman said, nationalization "comes so gradually . . . that almost before the people are aware of what has happened, the railroads are nationalized. Then it seems to be necessary or desirable to nationalize other forms of transportation and then . . . other utilities and basic industries."

Discussing the results of transport socialization in Great Britain, Mr. Plowman said it has meant to the British shipper "state monopoly of virtually all internal transportation . . . Road transport prohibited to private operators [except for certain specifically exempted movements] includes any operation in one vehicle of 25 miles or more, or 40 miles or over in a succession of vehicles. . . . The right of the shipper to select the kind of transportation best suited to his needs has been drastically curtailed, if not wiped out altogether. . . . The purpose of acquisition of British highway and canal transport, as well as and in addition to the railroads, clearly has been to enable the national government to prevent competition between these types of service and between carriers of the same types."

Mr. Plowman's further analysis showed clearly that creation of a national monopoly and elimination of competition have been accompanied by major rate increases and by deficit operation. "An increase in all railway rates and passenger charges of 24 per cent and 16¼ per cent, respectively, became effective October 1, 1947. This brought the level of charges to approximately 55 per cent over the level prior to World War II. . . . Nationalization of railways has resulted in 1948 in a deficit estimated unofficially at over $100 million, despite the higher rates. Nationalization has not been financially successful in other fields. The British National Coal Board reported a deficit of $93 million in operation of the nationalized coal mines, and the nationalized air lines operated at a deficit of $19 million."

Train Robbers Arrested

The two men—not four, as early reports indicated—who robbed pasengers and crew on the Baltimore & Ohio's "Ambassador" near Martinsburg, W. Va., on March 9, as reported in the *Railway Age* of March 12, were arrested in a Washington, D. C., pawnshop on the day following the hold-up.

C. & O. Offers Historical Trip As First Prize in Essay Contest

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son or daughter, to historical sites on the Chesapeake & Ohio, which, in conjunction with the National Father's Day committee, is conducting a national high school essay contest on the subject, "How Can Fathers Help Make Us Better Citizens." The essay must not exceed 250 words, and entries will be judged for clearness of thought and neatness.

The 7-day, all expense trip for the winner and his or her father, the first prize in the contests, will include visits to Monticello, Va., Yorktown, Williamsburg, Charleston, W. Va., and Washington, D. C.

The first-prize winner also will receive a $100 savings bond. Second and third prizes of $50 and $25 bonds will also be awarded. To enter the contest, a high school student should see his or her English instructor, who should contact the contest editor, National Father's Day committee, 50 East 42nd st., New York 17. Essays must be turned into teachers by March 31 and to the contest editor postmarked not later than April 15.

Lower Rates Filed on Export Grain

A reduction of one-half cent per 100 lb., or 3/10 cents per bu., on export grain moving through the ports of New York, Boston, Mass., and Portland, Me., has been proposed in tariffs recently filed with the Interstate Commerce Commission, to become effective April 11. The proposed rates would be equal to those now in effect on grain moving through Philadelphia, Pa., and Baltimore, Md. The proposed tariffs would also establish free storage time of 20 days at the three northern ports, to correspond with present Philadelphia-Baltimore practice, as compared with 10 days free storage now allowed at New York.

Six Railroad Presidents to Talk At Chicago Luncheon on March 23

A public affairs luncheon dedicated to railroads and emphasizing particularly their importance to Chicago is to be given at the Sherman Hotel in Chicago on March 23 by the Chicago Association of Commerce and Industry. Featuring the program will be five-minute talks by the following railroad presidents: Fred G. Gurley, Atchison, Topeka & Santa Fe; C. H. Buford, Chicago, Milwaukee, St. Paul & Pacific; R. L. Williams, Chicago & North Western; Wayne A. Johnson, Illinois Central; Ralph Budd, Burlington Lines, and J. D. Farrington, Chicago, Rock Island & Pacific. A forum on loss and damage prevention will follow the luncheon. Proper shipping and packing practices will be demonstrated, and speakers will stress the economic waste in freight loss and damage and tell of the prevention efforts of both carriers and shippers.

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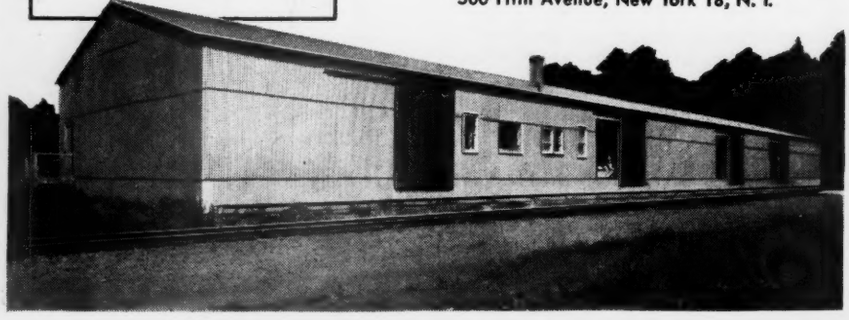
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